

30mm XN E-Stops

Key features:

- Plastic bezel, metallic padlock and flush bezel available
- Install up to 20 padlocks (XN4E)
- ø40, ø44 or ø60mm Mushroom heads available
- IDEC's original "safe break action" ensures that the contacts stay open when the contact block is detached from the operator.
- Safety-lock mechanism (IEC60947-5-5, 6.2)
- 2-in-1: Push-to-lock, Pull/Turn-to-Reset
- Push-ON LED model allows E-Stops to be illuminated only when latched
- Direct Opening Action mechanism (IEC60947-5-5, 5.2, IEC60947-5-1, Annex K)
- Very short panel depth
- Degree of protection IP65 (IEC60529)
- RoHS compliant (EU directive 2002/95/EC).
- XN4E series complies with OSHA and ISO 12100-2:2003 standards
- UL, c-UL listed, EN compliant
- UL NISD category emergency type device (File# E305148)



File No. E68961

Specifications

Applicable Standards	IEC60947-5-1, EN60947-5-1, IEC60947-5-5, EN60947-5-5, UL508, UL991, CSA C22.2 No. 14	
Operating Temperature	Non-illuminated: -25 to +60°C (no freezing), Illuminated: -25 to +55°C (no freezing)	
Operating Humidity	45 to 85% RH (no condensation)	
Storage Temperature	-45 to +80°C	
Operating Force	XN1E, XN5E Push-to-lock: 32N Pull-to-reset: 21N Turn-to-reset: 0.27 N·m	XN4E Push-to-lock: 32N Pull-to-reset: N/A Turn-to-reset: 0.4 N·m
Minimum Force Required for Direct Opening Action	80N	
Min Operator Stroke Required for Direct Opening Action	4mm	
Maximum Operator Stroke	4.5mm	
Contact Resistance	50mΩ maximum (initial value)	
Contact Material	Gold plated silver	
Insulation Resistance	100MΩ minimum (500V DC megger)	
Impulse Withstand Voltage	2.5kV	
Pollution Degree	3	
Operation Frequency	900 operations/hour	
Shock Resistance	Operating extremes: 150m/s ² (15G), Damage limits: 1000m/s ² (100G)	
Vibration Resistance	Operating extremes: 10 to 500Hz, amplitude 0.35mm acceleration 50m/s ² Damage limits: 10 to 500Hz, amplitude 0.35mm acceleration 50m/s ²	
Mechanical Life	250,000 operations minimum	
Electrical Life	100,000 operations minimum, (250,000 operations minimum @ 24V AC/DC, 100mA)	
Degree of Protection	Operator: IP65 (IEC60529) Terminal: IP20 (when XW9Z-VL2MF is installed)	
Terminal Style	M3.0 screw terminal	
Recommended Tightening Torque for Locking Ring	2.5N·m	
Wire Size	16 AWG max	
Weight	XN1E: Plastic bezel: 83g (ø40 mm), 93g (ø60 mm) XN5E: Flush bezel: 89g XN4E: Padlock type: 20g	

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks



Circuit Breakers

Part Numbers



XN1E Plastic Bezel Type E-Stops

Illumination	Operator Type	Main Contact	Monitor Contact	Part Number
Non-Illuminated 	40mm Mushroom	1NC	1NO	XN1E-BV411MR
		2NC	-	XN1E-BV402MR
		2NC	2NO	XN1E-BV422MR
		3NC	1NO	XN1E-BV413MR
	60mm Mushroom 	1NC	1NO	XN1E-BV511MR
		2NC	-	XN1E-BV502MR
		2NC	2NO	XN1E-BV522MR
		3NC	1NO	XN1E-BV513MR
Illuminated 	40mm Mushroom LED (24V AC/DC)	1NC	1NO	XN1E-LV411Q4MR
		2NC	-	XN1E-LV402Q4MR
		2NC	2NO	XN1E-LV422Q4MR
		3NC	1NO	XN1E-LV413Q4MR
	4NC	-	XN1E-LV404Q4MR	
	40mm Mushroom Push-ON LED (24V AC/DC)	2NC	1NO	XN1E-TV412Q4MR

XN4E Padlock Type E-Stops

Illumination	Operator Type	Main Contact	Monitor Contact	Part Number
Non-Illuminated 	44mm Mushroom	1NC	1NO	XN4E-BL411MR
		2NC	-	XN4E-BL402MR
		2NC	2NO	XN4E-BL422MR
		3NC	1NO	XN4E-BL413MR
		4NC	-	XN4E-BL404MR
Illuminated 	44mm Mushroom LED (24V AC/DC)	1NC	1NO	XN4E-LL411Q4MR
		2NC	-	XN4E-LL402Q4MR
		2NC	2NO	XN4E-LL422Q4MR
		3NC	1NO	XN4E-LL413Q4MR
	44mm Mushroom Push-ON LED (24V AC/DC)	2NC	1NO	XN4E-TL412Q4MR

XN5E Flush Bezel Type E-Stops

Illumination	Operator Type	Main Contact	Monitor Contact	Part Number
Non-Illuminated 	40mm Mushroom	1NC	1NO	XN5E-BV411MR
		2NC	-	XN5E-BV402MR
		2NC	2NO	XN5E-BV422MR
		3NC	1NO	XN5E-BV413MR
		4NC	-	XN5E-BV404MR
Illuminated 	40mm Mushroom LED (24V AC/DC)	1NC	1NO	XN5E-LV411Q4MR
		2NC	-	XN5E-LV402Q4MR
		2NC	2NO	XN5E-LV422Q4MR
		3NC	1NO	XN5E-LV413Q4MR
	40mm Mushroom Push-ON LED (24V AC/DC)	2NC	1NO	XN5E-TV412Q4MR

Contact Ratings

Rated Insulation Voltage (Ui)		250V				
Rated Current (Ith)		5A				
Rated Operating Voltage (Ue)		30V	125V	250V		
Rated Operating Current	Main Contacts (NC)	AC 50/60Hz	Resistive Load (AC-12)	–	5A	3A
			Inductive Load (AC-15)	–	3A	1.5A
	DC		Resistive Load (DC-12)	2A	0.4A	0.2A
			Inductive Load (DC-13)	1A	0.22A	0.1A
Rated Operating Current	Monitor Contacts (NO)	AC 50/60Hz	Resistive Load (AC-12)	–	1.2A	0.6A
			Inductive Load (AC-14)	–	0.6A	0.3A
	DC		Resistive Load (DC-12)	2A	0.4A	0.2A
			Inductive Load (DC-13)	1A	0.22A	0.1A

1. Minimum applicable load: 5V AC/DC, 1mA (reference value).
2. The rated operating currents are measured at resistive/inductive load types specified in IEC 60947-5-1.

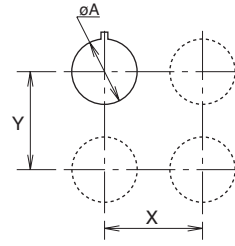
Illuminated Unit LED Ratings

Model	Operating Voltage	Current
XN	24V AC/DC ±10%	15mA

Depth Behind the Panel

Model	Depth (mm)	Description
XN1E	47.7	1 - 4 contacts, plastic bezel
XN5E	60.4	1 - 4 contacts, flush bezel
XN4E	61.4	1 - 4 contacts, padlock

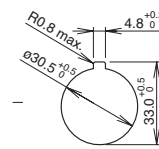
Mounting Hole Layout



Measurements

Size	φA	X & Y
XN1E, XN5E	30.5 ^{+0.5}	70mm min
XN4E	30.5	For XN4E, determine the values according to the size and number of padlocks and hasp.

Panel Cutout



Part Numbers

XN1E - L V 4 02 Q4 MR

- Bezel**
- 1: Plastic Bezel
 - 4: Padlock
 - 5: Flush Bezel

- Illumination**
- XN1E, XN5E
 - BV: Non-Illuminated
 - LV: Illuminated LED
 - TV: Illuminated Push-ON LED
 - XN4E
 - BL: Non-Illuminated
 - LL: Illuminated LED
 - TL: Illuminated Push-ON LED

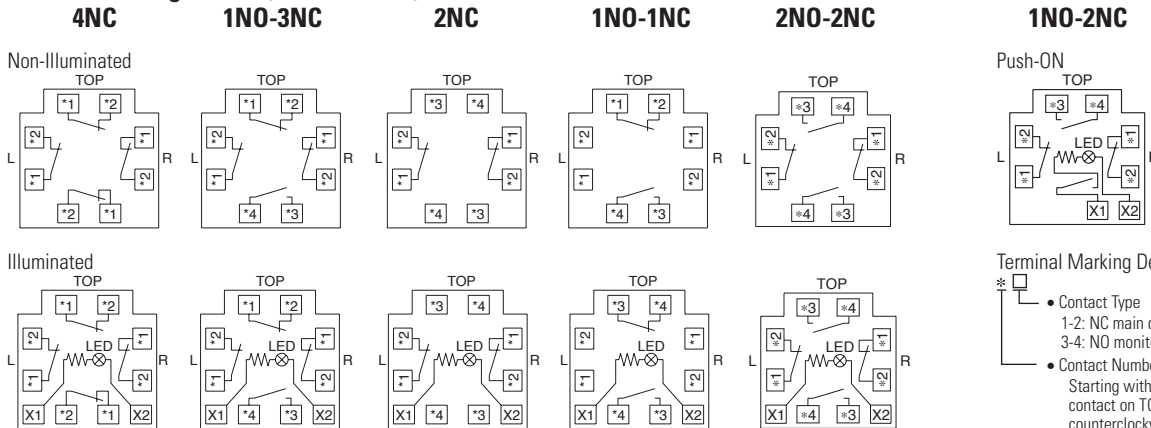
- Mushroom Size**
- 4: φ40mm: XN1E, XN5E
 - φ44mm: XN4E
 - 5: φ60mm (XN1E non-illuminated only)

- Contact Configuration***
- 11: 1NO - 1NC
 - 02: 2NC
 - 13: 1NO - 3NC
 - 22: 2NO - 2NC
 - 04: 4NC
 - 12: 1NO-2NC (Push-ON LED only)

- Voltage Code**
- Blank: Non-Illuminated
 - Q4: 24V AC/DC (Illuminated & Push-ON LED type)

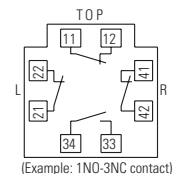
*Contact IDEC for additional configurations.

Terminal Arrangements (Bottom View)



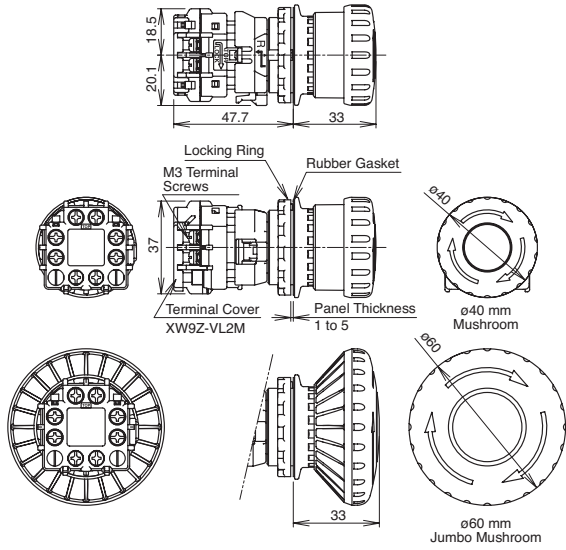
Terminal Marking Description

- Contact Type
 - 1-2: NC main contact
 - 3-4: NO monitor contact
- Contact Number (1-4)
 - Starting with the contact on TOP in a counterclockwise direction.
 - Note:
 - 1: contact on the TOP
 - 2: contact on the Left
 - 3: contact on the Bottom
 - 4: contact on the Right

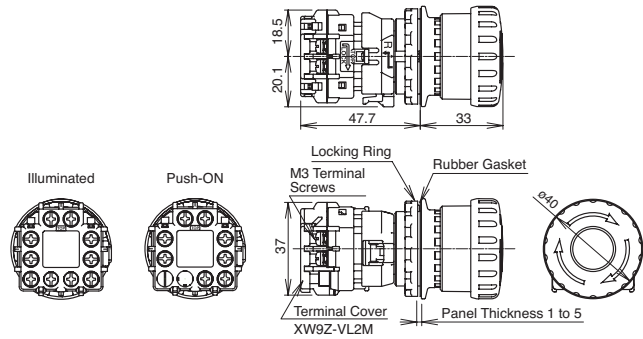


Dimensions

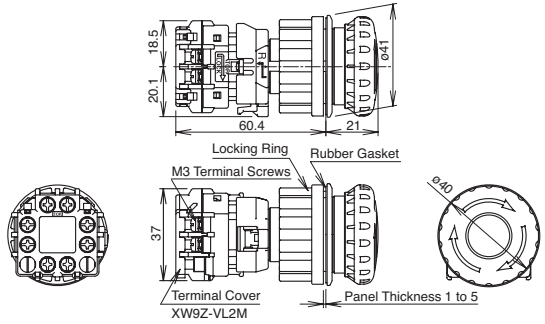
XN1E Non-Illuminated (with terminal cover)



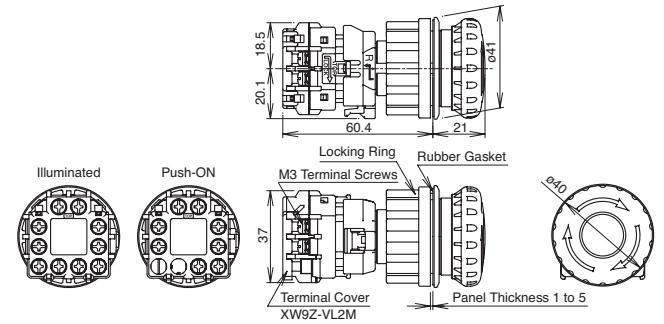
XN1E Illuminated/ Push-ON (with terminal cover)



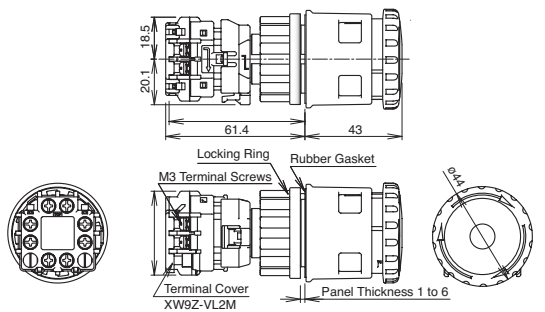
XN5E Non-Illuminated (with terminal cover)



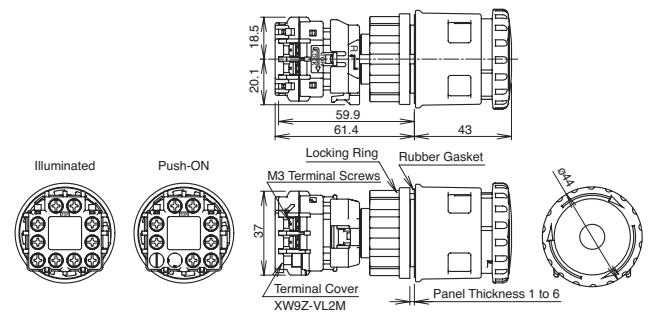
XN5E Illuminated (with terminal cover)



XN4E Non-Illuminated (with terminal cover)



XN4E Illuminated (with terminal cover)



Nameplates

Description	Part No.	Legend	Mounting Panel Thickness
	HNAV-0	(blank)	XN4E: 1.0 to 4.5 mm
	HNAV-27	EMERGENCY STOP	XN1E, XN5E: 1.0 to 3.5 mm

Accessories

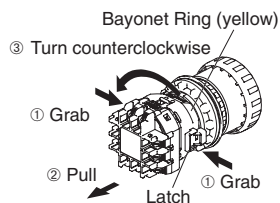
Model	Description	Part Number
	Locking Ring Wrench	XN9Z-T1
	Locking Ring Twist Wrench	TWST-T1
	Lockout Hasp	XN9Z-HASP421

Model	Description	Part Number
	Terminal Cover for Contact Block	XW9Z-VL2M
	IP20 Fingersafe Cover	XW9Z-VL2MF

Operating Instructions

Removing the Contact Block

First unlock the operator button. Grab the yellow bayonet ring ① and pull back the bayonet ring ② Turn counterclockwise ③ Grab the latch pin ④ and pull back the latch pin ⑤ until the latch pin clicks ⑥, then turn the contact block counterclockwise and pull out ⑦.

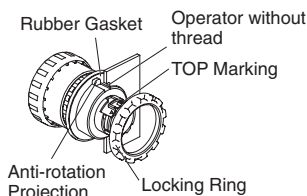


Notes for removing the contact block

1. Do not attempt to remove the contact block while the operator is latched, otherwise the switch may be damaged.
2. When the contact block is removed, the monitor contact (NO contact) is closed.
3. While removing the contact block, do not use excessive force, otherwise the switch may be damaged.
4. An LED lamp is built into the contact block for illuminated pushbuttons. When removing the contact block, pull the contact block straight to prevent damage to the LED lamp. If excessive force is used, the LED lamp may be damaged and fail to light.

Panel Mounting

Remove the locking ring from the operator and check that the rubber gasket is in place. Insert the operator from panel front into the panel hole. Face the side without thread on the operator with TOP marking upward, and tighten the locking ring using ring wrench XN9Z-T1 or TWST-T1 to a torque of 2.5 N·m maximum.



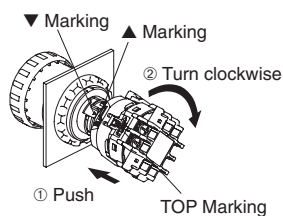
When using a nameplate

When using a nameplate HNAV-□, break the projection from the nameplate using pliers.



Installing the Contact Block

First unlock the operator button. Align the small ▼ marking on the edge of the operator with the small ▲ marking on the yellow bayonet ring. Hold the contact block, not the bayonet ring. Press the contact block onto the operator and turn the contact block clockwise until the bayonet ring clicks.



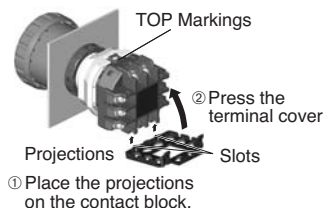
Notes for installing the contact block

1. Do not attempt to install the contact block when the operator is latched, otherwise the switch may be damaged.
2. Make sure that the bayonet ring is in the locked position.

Installing & Removing Terminal Covers

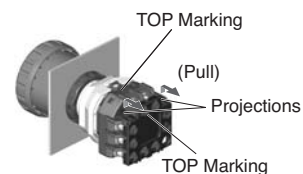
XW9Z-VL2M

To install the terminal cover, align the TOP marking on the terminal cover with the TOP marking on the contact block. Place the two projections on the bottom side of the contact block into the slots in the terminal cover. Press the terminal cover



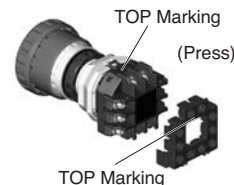
toward the contact block.

To remove the terminal cover, pull out the two latches on the top side of the terminal cover. Do not exert excessive force to the latches, otherwise the latches may break.



IP20 Fingersafe Terminal Cover XW9Z-VL2MF

To install the IP20 fingersafe terminal cover, align the TOP marking on the cover with the TOP marking on the contact block, and press the cover toward the contact block.



1. Once installed, the XW9Z-VL2MF cannot be removed.
2. With the XW9Z-VL2MF installed, crimping terminals cannot be used.
3. The XW9Z-VL2MF cannot be installed after wiring.
4. Make sure that the XW9Z-VL2MF is securely installed. IP20 cannot be achieved when installed loosely, and electric shock may occur.

Notes for Operation

When using the XN emergency stop switches in safety-related part of a control system, observe safety standards and regulations of the relevant country or region. Also be sure to perform a risk assessment before operation.

Wiring

Tighten the M3 terminal screws to a torque of 0.6 to 1.0 N·m.

Contact Bounce

When the button is reset by pulling or turning, the NC main contacts will bounce. When pressing the button, the NO monitor contacts will bounce.

When designing a control circuit, take the contact bounce time into consideration (reference value: 20 ms).

LED Illuminated Switches

LED lamp is built into the contact block and cannot be replaced.

Handling

Do not expose the switch to excessive shocks and vibrations, for example by operating the switch with tools. Otherwise the switch may be deformed or damaged, causing malfunction or operation failure.

Screw Terminal Type

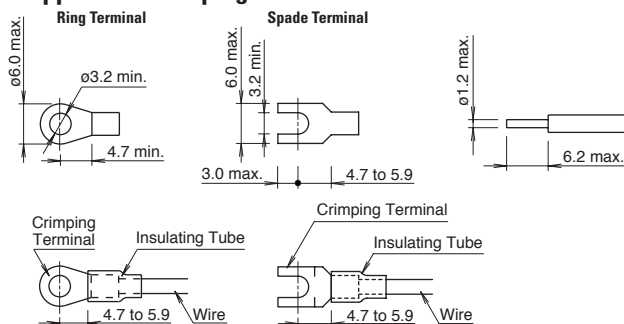
1. AWG18 to 16
2. Tighten the M3 terminal screw to a tightening torque of 0.6 to 1.0 N·m.

Operating Instructions, continued

Screw Terminal Type

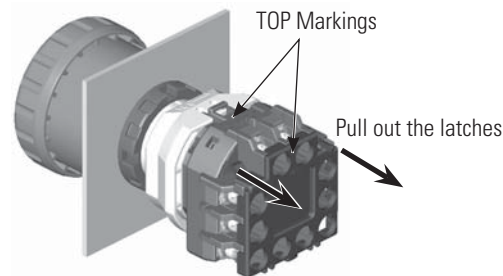
1. Wire thickness: 0.75 to 1.25 mm² (AWG18 to 16)

Applicable Crimping Terminals

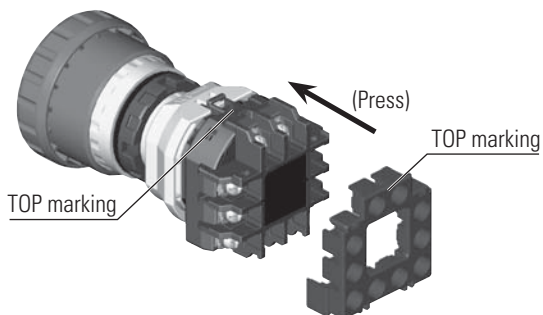


Solid Wire

To remove the terminal cover, pull out the two latches on the top side of the terminal cover. Do not exert excessive force to the latches, otherwise the latches may break.

IP20 Protection Terminal Cover
XW9Z-VL2MF

To install the IP20 protection cover, align the TOP marking on the cover with the TOP marking on the contact block, and press the cover toward the contact block.



1. Once installed, the XW9Z-VL2MF cannot be removed.
2. The XW9Z-VL2MF cannot be installed after wiring.
3. With the XW9Z-VL2MF installed, crimping terminals cannot be used. Use solid wires.
4. Make sure that the XW9Z-VL2MF is securely installed. IP20 cannot be achieved when installed loosely, and electric shocks may occur.

Be sure to install an insulating tube on the crimping terminal.

2. Tighten the M3 terminal screw to a tightening torque of 0.6 to 1.0 N·m.

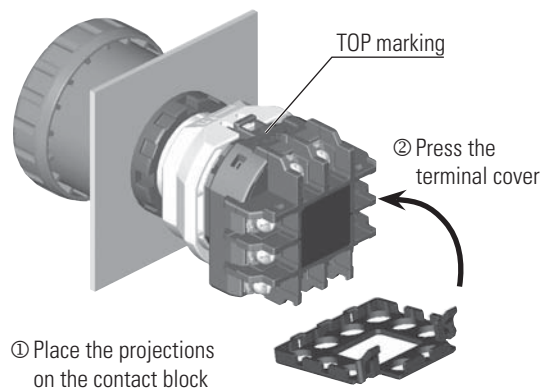
Connector Type

1. Connector shape
Tyco Electronics, D-2000 series
Part No. 1376009-1 (tab header, board mount)
2. Applicable connectors (to be supplied by user)
Tyco Electronics, D-2000 series
Part No. 1-1318119-4 (receptacle housing)
Tyco Electronics, D-2000 series
Part No. 1318107-1 (receptacle contact)
3. To prepare correct receptacles for the connector type, read the instruction sheet and catalog of Tyco Electronics and understand the installation and wiring method.
4. Fasten the cable so that the connector is not pulled.
Otherwise the switch may be deformed and damaged, causing malfunction or operation failure.

Installing and Removing Terminal Covers

XW9Z-VL2M

To install the terminal cover, align the TOP marking on the terminal cover with the TOP marking on the contact block. Place the two projections on the bottom side of the contact block into the slots in the terminal cover. Press the terminal cover toward the contact block.



Contact Bounce

When the button is reset by pulling or turning, the NC main contacts will bounce. When pressing the button, the NO monitor contacts will bounce.

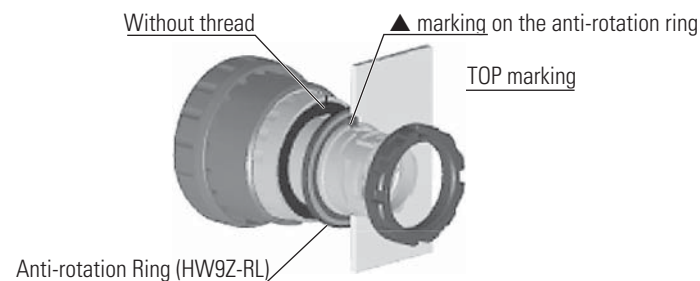
When designing a control circuit, take the contact bounce time into consideration (reference value: 20 ms).

LED Illuminated Switches

An LED lamp is built into the contact block and cannot be replaced.

Installing the Anti-rotation Ring
HW9Z-RL

Align the side without thread on the operator with TOP marking, the small marking on the anti-rotation ring, and the recess on the mounting panel.



TWTD Series – Full Size NEMA Pushbuttons



TWTD Series: Heavy duty switches built to last

Key features include:

- Variety of button sizes up to 2 9/16" (65mm)
- Rugged construction includes chrome plated zinc locking ring die cast zinc mounting threads, screw mounted contact blocks
- LED or incandescent illumination
- Transformer or full voltage
- Transparent contact windows
- Slow make, double break self-cleaning contacts
- Modular construction for maximum flexibility
- Double nickel plated terminal screws
- Available assembled or as sub-components
- NEMA 4x and IP65 watertight/oiltight panel
- Large M3.5 screw terminals with captive sems plate

The rugged series of TWTD switches offers both variety and durability in an attractive design.

With button sizes up to 2 9/16" (65mm), chrome plated zinc locking rings, die cast zinc mounting threads, steel anti-rotation rings, and self cleaning contacts, the TWTDs are here to stay.

The TWTD series also offers either LED or incandescent illumination in full voltage and transformer models.

Transparent contact windows allow the viewing of IDEC's self cleaning slow-make/slow-break contacts.

Regardless of your switching needs, the TWTD series provides the kind of long lasting, industrial strength quality you've come to expect from IDEC.



UL Listed
File No. E70646



File No. LR48366



Ref No. 117617MC



Certificate No.
2005010305145658

Specifications

Conforming to Standards	EN60947-1, EN60947-5-1, VDE0660-200, UL508, CSA C22-2 No.14
Approvals	<p>CSA: pushbuttons and selector switches: A600 pilot lights and illuminated pushbuttons, direct supply pilot lights and illuminated pushbuttons with integral transformer (100/110, 115, 120, 200/220, 230, 240, 380, 400/440, 480V)</p> <p>UL: pushbuttons and selector switches: A600 pilot lights and illuminated pushbuttons, direct supply pilot lights and illuminated pushbuttons with integral transformer (100/110, 115, 120, 200/220, 230, 240, 380, 400/440, 480V)</p> <p>TÜV: pushbuttons and selector switches: A600=P600 (NO, NC)/Q600 (NO-EM, NC-LB) pilot lights and illuminated pushbuttons, direct supply pilot lights and illuminated pushbuttons with integral transformer (100/110, 115, 120, 200/220, 230, 240, 380, 400/440, 480V)</p>
Operating Temperature	Operation: -25 to +50°C (without freezing) Storage: -40 to +70°C (without freezing)
Vibration Resistance	10 to 55Hz, 98m/sec ² (10g) conforming to IEC6068-2-6
Shock Resistance	980m/sec ² (100g) conforming to IEC6068-2-7
Electric Shock Protection	Class 0 conforming to IEC60536
Degree of Protection	IP65 (from front of the panel) (conforming to IEC60529) IP54 (key switches) NEMA 1, 2, 3, 3R, 3S, 4, 4X, 5, 12, 13 (conforming to NEMA ICS6-110)
Mechanical Life	Momentary pushbuttons: 5,000,000 (900 operations per hour) All other switches: 500,000
Pollution Degree (conforming to IEC60947-1)	3 for switches not using a transformer 2 for switches using a transformer

Mechanical-Electrical Specifications

Rated Operational Characteristics	AC-15: A600 or Ue = 250V, Ie = 3A (NO, NC, NO-EM, NC-LB) DC-13: P600 or Ue = 125V, Ie = 1.1A (NO, NC) DC-13: Q600 or Ue = 125V, Ie = 0.9A (NO-EM, NC-LB)
Rated Insulation Voltage	600V
Rated Switching Overvoltage	Less than 4kV, conforming to IEC60947-1
Rated Impulse Withstanding Voltage	4kV for contact circuit 2.5kV for lamp circuit
Rated Thermal Current	10 Amp
Minimum Switching Capacity	5 mA at 3V AC/DC
Contact Operation	Slow break NC or NO, self-cleaning
Operating Force	Flush and extended pushbuttons—with 1NO or 1NC contact: 6.2±2N (momentary), 7.0±2N (maintained) Additional contacts—1NO or 1NC: +3.2N (momentary), + 3.3N (maintained)
Terminal Referencing	Conforming to CENELEC EN50005
Recommended Terminal Torque	0.8 N m (7.1 in lb.)
External Short-Circuit Protection	10A 250V fuse conforming to IEC60269-1
Applicable Wire Size	Minimum 1 x 22 AWG, max. 2 x 14 AWG or 1 x 12 AWG
Contact Resistance	Initial contact resistance of 50mΩ or less
Contact Gap	4mm (NO and NC) 2mm (NO-EM and NC-LB)
Lamp Ratings	Incandescent: 1 W LEDs: 6V: 17mA, 12V: 11mA, 24V: 11mA, / 120, 240V: 10mA
Maximum Inrush Current	40 A (40 msec)
Contact Material	Silver

Contact Ratings

Contact Ratings by Utilization Category IEC 60947-5-1		AC-15 (A600)						
		DC-13 (P600)						
Contact Ratings by Utilization Category								
Operational Voltage		24V 48V 50V 110V 220V 440V						
Operation Current	AC 50/60 Hz	AC-12 Control of resistive loads & solid state loads	10A	—	10A	10A	6A	2A
		AC-15 Control of electromagnetic loads (> 72VA)	10A	—	7A	5A	3A	1A
	DC	DC-12 Control of resistive loads & solid state loads	8A	5A	—	2.2A	1.1A	—
		DC-13 Control of electromagnets	5A	2A	—	1.1A	0.6A	—

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Non-Illuminated Pushbuttons (Assembled)



Assembled Pushbuttons

A **B** () **D** **1** **10** **N** - **R**

Function

- B: Momentary
- O: Maintained
- V: Pushlock Turn Reset
- Y: Push-Pull

Bezel Shape

- Blank: Octagonal
- F: Full Shroud
- G: Mushroom Shroud
- P: Neoprene Boot

Series Designation

- D: TWTD Series

Button Color

- B: Black G: Green W: White
- R: Red S: Blue Y: Yellow

Contact Arrangement

- 10: 1NO 01: 1NC
- 20: 2NO 02: 2NC
- 11: 1NO-1NC 22: 2NO-2NC

Button Shape

- 1: Flush
- 2: Extended
- 3: Mushroom ø 40mm
- 4: Jumbo Mushroom ø 65mm



1. Use only when interpreting part numbers. Do not use for developing part numbers.
2. Custom contact configurations available, contact IDEC for details.

Non-Illuminated Pushbuttons (Assembled)

Non-Illuminated Pushbuttons

Style	Contacts	Momentary	Maintained
Flush	1NO	ABD110N-⓪	AOD110N-⓪
	1NC	ABD101N-⓪	AOD101N-⓪
	1NO-1NC	ABD111N-⓪	AOD111N-⓪
	2NO	ABD120N-⓪	AOD120N-⓪
	2NC	ABD102N-⓪	AOD102N-⓪
Extended	1NO	ABD210N-⓪	AOD210N-⓪
	1NC	ABD201N-⓪	AOD201N-⓪
	1NO-1NC	ABD211N-⓪	AOD211N-⓪
	2NO	ABD220N-⓪	AOD220N-⓪
	2NC	ABD202N-⓪	AOD202N-⓪
Extended with Neoprene Boot [†]	1NO	ABPD210N-⓪	AOPD210N-⓪
	1NC	ABPD201N-⓪	AOPD201N-⓪
	1NO-1NC	ABPD211N-⓪	AOPD211N-⓪
	2NO	ABPD220N-⓪	AOPD220N-⓪
	2NC	ABPD202N-⓪	AOPD202N-⓪
Recessed	1NO	ABFD110N-⓪	AOFD110N-⓪
	1NC	ABFD101N-⓪	AOFD101N-⓪
	1NO-1NC	ABFD111N-⓪	AOFD111N-⓪
	2NO	ABFD120N-⓪	AOFD120N-⓪
	2NC	ABFD102N-⓪	AOFD102N-⓪
Extended with Full Shroud	1NO	ABFD210N-⓪	AOFD210N-⓪
	1NC	ABFD201N-⓪	AOFD201N-⓪
	1NO-1NC	ABFD211N-⓪	AOFD211N-⓪
	2NO	ABFD220N-⓪	AOFD220N-⓪
	2NC	ABFD202N-⓪	AOFD202N-⓪
ø 40mm Mushroom Head	1NO	ABD310N-⓪	AOD310N-⓪
	1NC	ABD301N-⓪	AOD301N-⓪
	1NO-1NC	ABD311N-⓪	AOD311N-⓪
	2NO	ABD320N-⓪	AOD320N-⓪
	2NC	ABD302N-⓪	AOD302N-⓪
ø 40mm Mushroom Head with Full Shroud	1NO	ABGD310N-⓪	AOGD310N-⓪
	1NC	ABGD301N-⓪	AOGD301N-⓪
	1NO-1NC	ABGD311N-⓪	AOGD311N-⓪
	2NO	ABGD320N-⓪	AOGD320N-⓪
	2NC	ABGD302N-⓪	AOGD302N-⓪
ø 65mm Jumbo Mushroom Head	1NO	ABD410N-⓪	AOD410N-⓪
	1NC	ABD401N-⓪	AOD401N-⓪
	1NO-1NC	ABD411N-⓪	AOD411N-⓪
	2NO	ABD420N-⓪	AOD420N-⓪
	2NC	ABD402N-⓪	AOD402N-⓪
ø 65mm Jumbo Mushroom Head with Shallow Shroud	1NO	ABGD410N-⓪	AOGD410N-⓪
	1NC	ABGD401N-⓪	AOGD401N-⓪
	1NO-1NC	ABGD411N-⓪	AOGD411N-⓪
	2NO	ABGD420N-⓪	AOGD420N-⓪
	2NC	ABGD402N-⓪	AOGD402N-⓪
ø 65mm Jumbo Mushroom Head With Deep Shroud	1NO	ABFD410N-⓪	AOFD410N-⓪
	1NC	ABFD401N-⓪	AOFD401N-⓪
	1NO-1NC	ABFD411N-⓪	AOFD411N-⓪
	2NO	ABFD420N-⓪	AOFD420N-⓪
	2NC	ABFD402N-⓪	AOFD402N-⓪

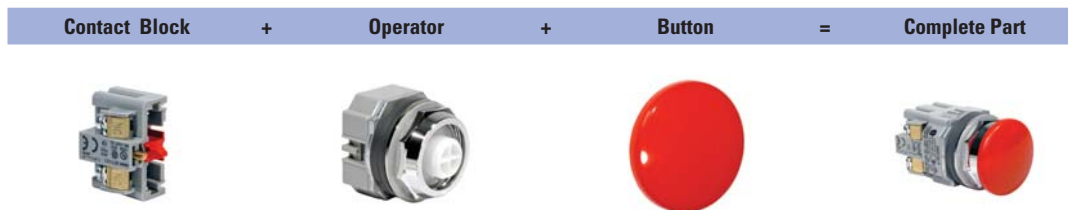
① Button Color Codes

Color	Code
Black	B
Green	G
Red	R
Blue	S
Yellow	Y
White	W

- 1. 65mm Jumbo mushroom not available in white.
- 2. Neoprene boot is not available in blue or white.

- 1. In place of ⓪, specify the Button Color Code.
- 2. For sub-assembly part numbers, see next page.
- 3. For accessories, see page 632.
- 4. [†]Neoprene boot available only in Black (B), Green (G), Red (R) and Yellow (Y).

Non-Illuminated Pushbuttons (Sub-Assembled)



Operators

Style	Part Number	
	Momentary	Maintained
Flush/Extended	ABD-100	AOD-100
Extended with Full Shroud	ABFD-200	AOFD-200
ø 40mm Mushroom/ø 65mm Jumbo Mushroom	ABD-300	AOD-300
ø 40mm Mushroom with Full Shroud	ABGD-300	AOGD-300
ø 65mm Jumbo Mushroom with Shallow Shroud	ABGD-400	AOGD-400
ø 65mm Jumbo Mushroom with Deep Shroud	ABFD-400	AOFD-400

Buttons and Lenses

Style	Part Number
Flush	ABD1BN-Ⓢ
Extended	ABD2BN-Ⓢ
ø 40mm Mushroom	ABD3BN-Ⓢ
ø 65mm Jumbo Mushroom	ABD4BN-Ⓢ



In place of Ⓢ, specify the Button Color Code. (See table previous page)

Contact Blocks

Style	Part Number	
	1NO	1NC
	BST-010	BST-001
	BST-010S (early make)	BST-001S (late break)
Dummy Block	BST-D	



- Dummy blocks (no contacts) are used with an odd number of contact blocks.
- Combining BST-010S and BST-001S result in overlapping contacts.

Switches & Pilot Lights

Display Lights

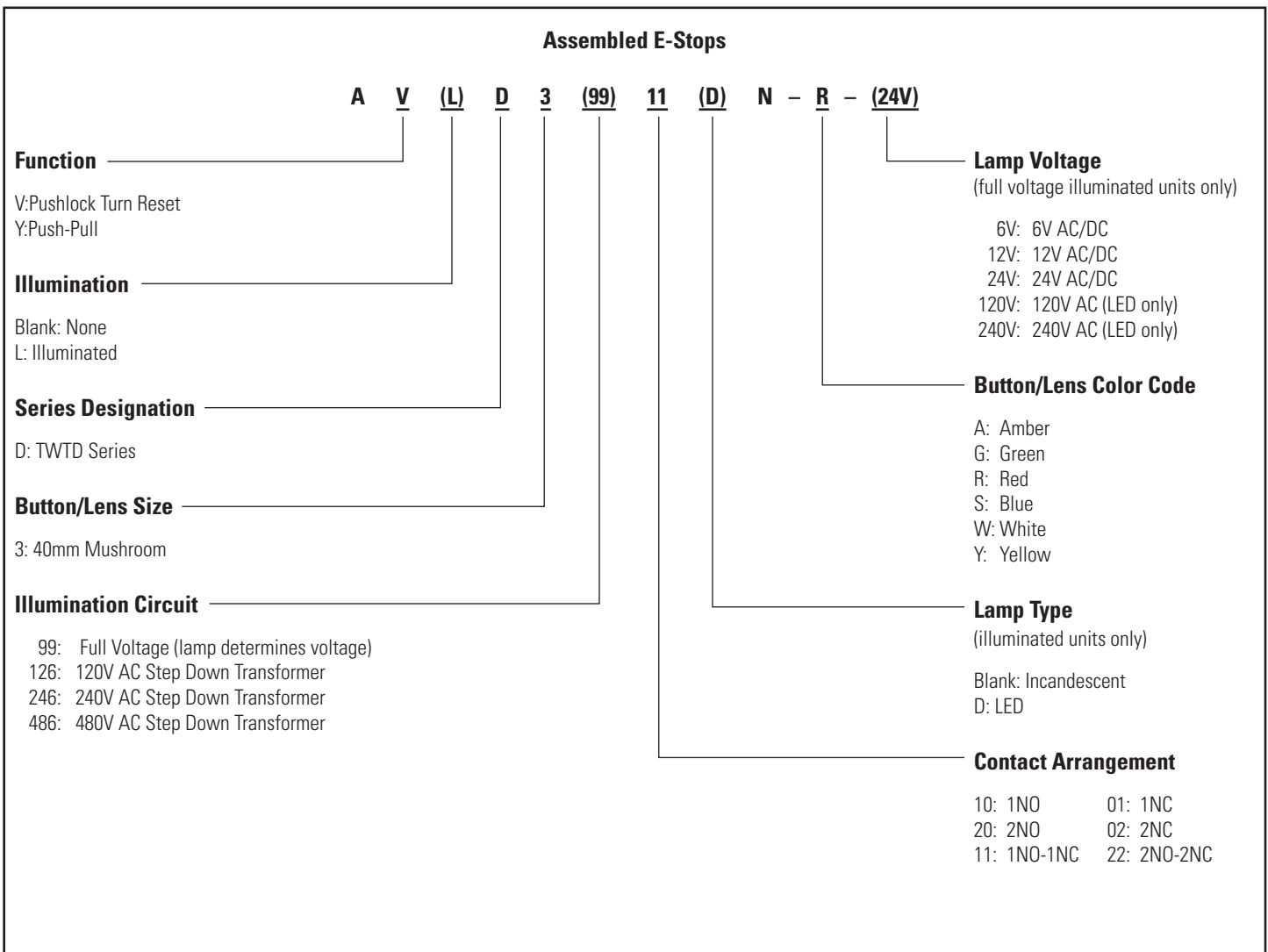
Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers




E-Stops (Assembled)



1. Use only when interpreting part numbers. Do not use for developing part numbers.
2. Custom contact configurations available, contact IDEC for details.

E-Stops (Assembled)

E-Stop Switches

Style	Contacts	Part Number
ø 40mm Pushlock Turn Reset  Non-Illuminated	1NO 1NC 1NO-1NC 2NO 2NC	AVD310N-R* AVD301N-R* AVD311N-R* AVD320N-R* AVD302N-R*
	1NO-1NC 2NO 2NC	AVLD39911ⓈN-R-③* AVLD39920ⓈN-R-③* AVLD39902ⓈN-R-③*
ø 40mm Illuminated Pushlock Turn Reset  Full Voltage Transformer	1NO-1NC 2NO 2NC	AVLD3 ④ 11ⓈN-R* AVLD3 ④ 20ⓈN-R* AVLD3 ④ 02ⓈN-R*
	1NO-1NC 2NO 2NC	AYD310N-① AYD301N-① AYD311N-① AYD320N-① AYD302N-①
ø 40mm Push-Pull  Non-Illuminated	1NO 1NC 1NO-1NC 2NO 2NC	AYLD39911ⓈN-②-③** AYLD39920ⓈN-②-③** AYLD39902ⓈN-②-③**
	1NO-1NC 2NO 2NC	AYLD3 ④ 11ⓈN-②** AYLD3 ④ 20ⓈN-②** AYLD3 ④ 02ⓈN-②**
ø 40mm Push-Pull  Full Voltage Transformer	1NO-1NC 2NO 2NC	AYLD229911ⓈN-②-③-TK962 AYLD229902SⓈN-②-③-TK962
	1NO-1NC 1NC-1LB†	AYLD22 ④ 11ⓈN-②-TK962 AYLD22 ④ 02SⓈN-②-TK962
ø 40mm Momentary Push-Pull (3-position) 	1NO-1NC 1NC-1LB†	

Unibody E-Stops

Style	Contacts	Part Number
ø 40mm Pushlock Turn Reset (available in Red only) 	1NO-1NC 2NC	HN1E-BV4F11-R* HN1E-BV4F02-R*
Illuminated ø 40mm Pushlock Turn Reset (available in Red only) 	1NO-1NC 2NC	HN1E-LV4F11QⓈ-R-③ HN1E-LV4F02QⓈ-R-③

- In place of ①, specify the button color code.
- In place of ②, specify the lens color code.
- In place of ③, specify the Full Voltage (lamp voltage) Code.
- In place of ④, specify the transformer voltage code.
- In place of ⑤, specify the Lamp Type code.
- With single unit construction, the positive action contacts are integrated in the body of the switch. This provides an extra degree of safety and reliability for critical emergency stop functions.
- HN1E series E-stops comply with EN418, the IEC "E-Stop Addendum to the Low Voltage Directive," this includes "tamper proof" operation whereby a change of contact state is not possible by "teasing" or "floating" the operator.
- 3 position push-pull available in spring return to center only.
- *Available in red only.
- **Not available in blue.
- †The most common configuration for motor starting applications.
- For sub-assembly part numbers, see next page.
- For nameplates and accessories, see page 634 and 632.
- For dimensions, see page 637.

3 Position Push-Pull†

Contact	Push	Center	Pull
NC (BST-001)	0	0	X
NC-LB (BST-001S)	0	X	X
NO (BST-010)	X	0	0
NO-EM (BST-010S)	X	X	0

① Button Color Codes

Color	Code
Black	B
Green	G
Red	R
Blue	S
Yellow	Y

② LED/Lens Color Codes

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W

③ Full Voltage Codes

Voltage	Code
6V AC/DC	6V
12V AC/DC	12V
24V AC/DC	24V
120V AC	120V
240V AC	240V (LED only)

④ Transformer Voltage Codes

Voltage	Code
120VAC	126
240VAC	246
480VAC	486

 Transformers step down to 6V.

⑤ Lamp Type Codes

Lamp	Code
Incandescent	Blank
LED	D

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

E-Stops (Sub-Assembled)



* Not required for full voltage units (full voltage clips used instead).

Operators

Style	Image	Part Number
ø 40mm Pushlock Turn Reset		AVD-300
Illuminated ø 40mm Pushlock Turn Reset		AVLD3-0600N
ø 40mm Push-Pull		AYD-3100
Illuminated ø 40mm Push-Pull	2 pos	AYLD-0600
	3 pos	AYLD22TK962-0B01

Buttons and Lenses

Style	Image	Part Number
Button for Pushlock Turn Reset E-Stop (ø 40mm, red only)		AVN3B-R
Lens for Illuminated Pushlock Turn Reset E-Stop (ø 40mm, red only)		AVLN3LU-R
Button for Push-Pull E-Stop (ø 40mm)		AYD3BN-①
Lens for Illuminated Push-Pull E-Stop (ø 40mm)	2 pos*	AYLD3L-②
	3 pos	AYLD2L-②

- 1. In place of ①, specify the Button Color Code. (See table below)
- 2. In place of ②, specify the LED Color Code.
- 3. *Not available in blue.

Lamps

Style	Voltage	Part Number
	6V AC/DC	LSTD-6②
	12V AC/DC	LSTD-1②
	24V AC/DC	LSTD-2②
	120V AC	LSTD-H2②
	240V AC	LSTD-M4②
	6V AC/DC	IS-6
	12V AC/DC	IS-12
	24V AC/DC	IS-24
	120V AC	L-120L

- 1. In place of ②, specify the LED color code.
- 2. The LED contains a current-limiting resistor and a protection diode.

① Button Color Codes

Color	Code
Black	B
Green	G
Red	R
Blue	S
Yellow	Y

② LED Color Codes

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W

Contact Blocks

Style	Part Number	
	1NO	1NC
	BST-010	BST-001
	BST-010S (early make)	BST-001S (late break)
Dummy Block	BST-D	

- 1. Dummy blocks (no contacts) are used with an odd number of contact blocks.
- 2. Combining BST-010S and BST-001S result in overlapping contacts.

Full Voltage Clips

Primary Voltage (50/60Hz)	Part Number
	APD-F

Transformers

Description	Primary Voltage (50/60Hz)	Part Number
	120V AC	TWD-0126
	240V AC	TWD-0246
	480V AC	TWD-0486

6V secondary voltage (uses 6V lamp).

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Pilot Lights (Assembled)



Assembled Pilot Lights

A P D 1 126 D N - R - ()

Function
P: Pilot Light

Series Designation
D: TWTD Series

Lens Shape
1: Dome

Rated Operational Voltage (Primary)
Transformer Type Full Voltage Type
126: 120V AC 99: Full Voltage
246: 240V AC
486: 480V AC



Lamp Voltage
(full voltage illuminated units only)
6V: 6V AC/DC
12V: 12V AC/DC
24V: 24V AC/DC
120V: 120V AC (LED only)
240V: 240V AC (LED only)

Lens Color Code
A: Amber
G: Green
R: Red
S: Blue
W: White
Y: Yellow

Lamp Type
Blank: Incandescent
D: LED

Use only when interpreting part numbers. Do not use for developing part numbers.

LED and Incandescent Pilot Lights

Style	Operating Voltage	Part Number	
		LED	Incandescent
 Transformer Dome	120V AC 240V AC 480V AC	APD1126DN-② APD1246DN-② APD1486DN-②	APD1126N-② APD1246N-② APD1486N-②
 Full Voltage Dome	—	APD199DN-②-③	APD199N-②-③

② Lens Color Codes

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W
Yellow	Y

③ Full Voltage Codes

Voltage	Code
6V AC/DC	6V
12V AC/DC	12V
24V AC/DC	24V
120V AC	120V
240V AC	240V (LED only)

- 1. In place of ②, specify the Lens/LED Color Code.
- 2. In place of ③, specify the Full Voltage Code (lamp voltage).
- 3. Yellow pilot light comes with white LED.

Pilot Lights (Sub-Assembled)



* Not required for full voltage units (full voltage clips used instead).

One Each from Left Column **plus** One Selection from Right Column

Operators

Style	Part Number
	APD-006
	APD-199



Full voltage operator comes with full voltage clips.

Lenses

Style	Part Number
	APN106LN-Ⓢ

1. In place of Ⓢ, specify the Lens Color Code.
2. LED and incandescent lenses differ in shade only. Some colors have only one shade.

Lamps

Style	Voltage	Part Number
	6V AC/DC	LSTD-6Ⓢ
	12V AC/DC	LSTD-1Ⓢ
	24V AC/DC	LSTD-2Ⓢ
	120V AC	LSTD-H2Ⓢ
	240V AC	LSTD-M4Ⓢ
	6V AC/DC	IS-6
	12V AC/DC	IS-12
	24V AC/DC	IS-24
	120V AC	L-120L


1. In place of Ⓢ, specify the LED color code.
2. The LED contains a current-limiting resistor and a protection diode.

Full Voltage Clips

Primary Voltage (50/60Hz)	Part Number
	APD-F

Required for all full voltage models. Two pieces each.

Transformers

Description	Primary Voltage (50/60Hz)	Part Number
	120V AC	TWD-0126
	240V AC	TWD-0246
	480V AC	TWD-0486

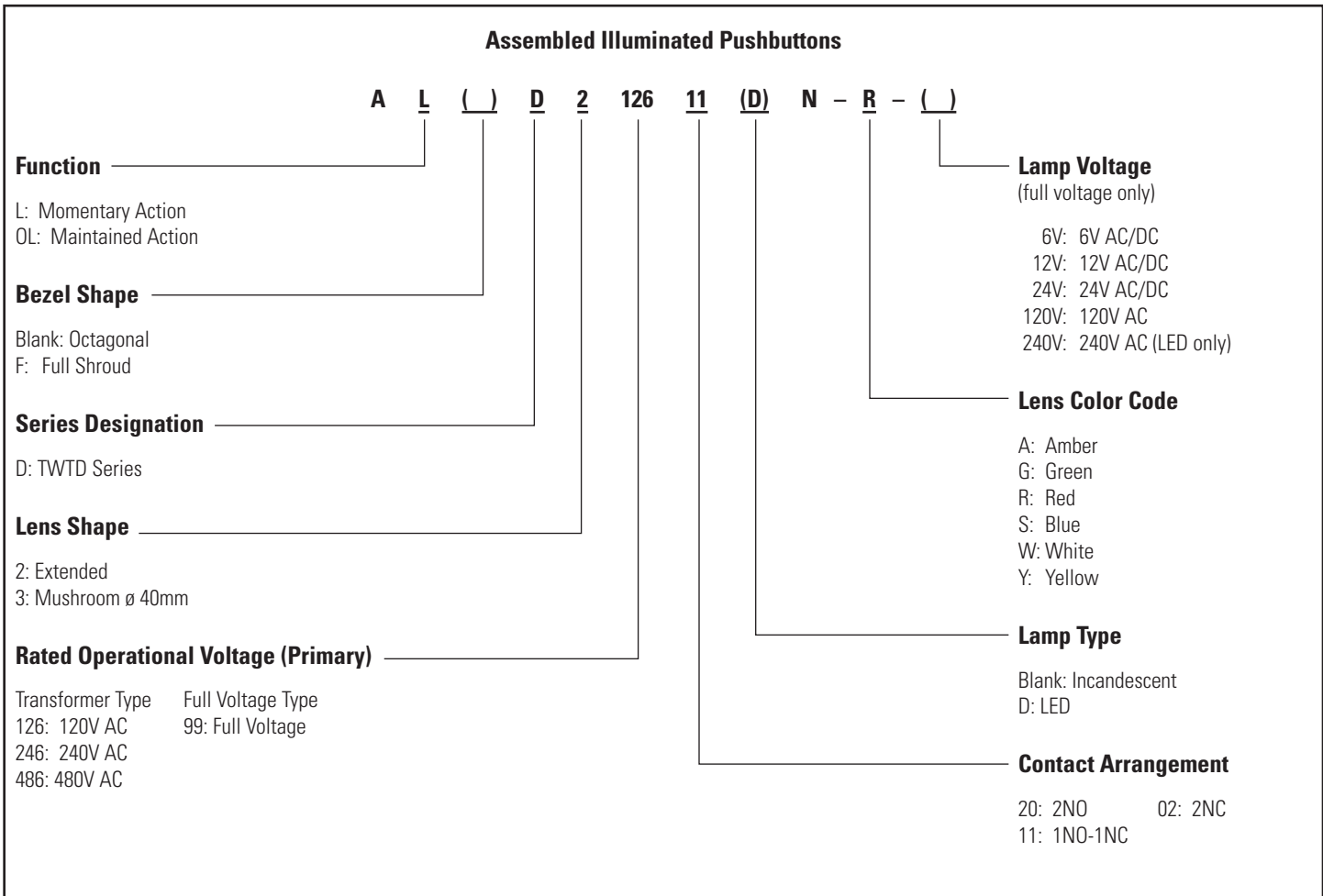
6V secondary voltage (use 6V lamp).

Ⓢ LED/Lens Color Codes

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W
Yellow	Y

Yellow lens only. Yellow LED not available, use white LED.


Illuminated Pushbuttons (Assembled)



1. Use only when interpreting part numbers. Do not use for developing part numbers.
2. All transformers and AC Adaptors step down to 6V.

Illuminated Pushbuttons (Assembled)

Illuminated Pushbuttons

Style	Contacts	Part Number		
		Momentary	Maintained	
Extended Lens 	Full Voltage	1NO-1NC 2NO 2NC	ALD29911ⓈN-②-③ ALD29920ⓈN-②-③ ALD29902ⓈN-②-③	AOLD29911ⓈN-②-③ AOLD29920ⓈN-②-③ AOLD29902ⓈN-②-③
	Transformer	1NO-1NC 2NO 2NC	ALD2 ⊕ 11ⓈN-② ALD2 ⊕ 20ⓈN-② ALD2 ⊕ 02ⓈN-②	AOLD2 ⊕ 11ⓈN-② AOLD2 ⊕ 20ⓈN-② AOLD2 ⊕ 02ⓈN-②
Extended Lens with Full Shroud 	Full Voltage	1NO-1NC 2NO 2NC	ALFD29911ⓈN-②-③ ALFD29920ⓈN-②-③ ALFD29902ⓈN-②-③	AOLFD29911ⓈN-②-③ AOLFD29920ⓈN-②-③ AOLFD29902ⓈN-②-③
	Transformer	1NO-1NC 2NO 2NC	ALFD2 ⊕ 11ⓈN-② ALFD2 ⊕ 20ⓈN-② ALFD2 ⊕ 02ⓈN-②	AOLFD2 ⊕ 11ⓈN-② AOLFD2 ⊕ 20ⓈN-② AOLFD2 ⊕ 02ⓈN-②
ø 40mm Mushroom Lens 	Full Voltage	1NO-1NC 2NO 2NC	ALD39911ⓈN-②-③ ALD39920ⓈN-②-③ ALD39902ⓈN-②-③	AOLD39911ⓈN-②-③ AOLD39920ⓈN-②-③ AOLD39902ⓈN-②-③
	Transformer	1NO-1NC 2NO 2NC	ALD3 ⊕ 11ⓈN-② ALD3 ⊕ 20ⓈN-② ALD3 ⊕ 02ⓈN-②	AOLD3 ⊕ 11ⓈN-② AOLD3 ⊕ 20ⓈN-② AOLD3 ⊕ 02ⓈN-②

- 1. In place of ②, specify the Lens Color Code.
- 2. In place of ③, specify the Full Voltage Code (lamp voltage).
- 3. In place of ⊕, specify the Transformer Voltage Code.
- 4. In place of Ⓢ, specify the Lamp Type Code.
- 5. Light is independent of switch position.
- 6. Yellow pushbutton comes with white LED only.

② Lens Color Codes


Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W
Yellow	Y

③ Full Voltage Codes

Voltage	Code
6V AC/DC	6V
12V AC/DC	12V
24V AC/DC	24V
120V AC	120V
240V AC	240V (LED only)

④ Transformer Voltage Codes

Voltage	Code
120VAC	126
240VAC	246
480VAC	486

 6V secondary voltage (uses 6V lamp).

⑤ Lamp Type Codes

Lamp	Code
Incandescent	Blank
LED	D

Illuminated Pushbuttons (Sub-Assembled)

Transformer* + Contact Block + Operator + Lamp + Lens = Complete Part



*Not required for full voltage types (full voltage types use APD-F full voltage clips).

Operators

Style	Image	Part Number	
		Momentary	Maintained
Extended		ALD-0600	AOLD-0600
Extended with Full Shroud		ALFD-0600	AOLFD-0600
40mm Mushroom		ALD-0600	AOLD-0600

Lamps

Style	Voltage	Part Number
LED	6V AC/DC	LSTD-6Ⓢ
	12V AC/DC	LSTD-1Ⓢ
	24V AC/DC	LSTD-2Ⓢ
	120V AC	LSTD-H2Ⓢ
	240V AC	LSTD-M4Ⓢ
Incandescent	6V AC/DC	IS-6
	12V AC/DC	IS-12
	24V AC/DC	IS-24
	120V AC	L-120L

LED/Lens Color Codes

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W
Yellow	Y

Yellow lens only. Yellow LED not available, use white LED.

1. In place of Ⓢ, specify the LED color code.
2. The LED contains a current-limiting resistor and a protection diode.

Contact Blocks

Style	Part Number	
	1NO	1NC
All Control Units	BST-010	BST-001
	BST-010S (early make)	BST-001S (late break)
Dummy Block	BST-D	

1. Dummy blocks (no contacts) are used with an odd number of contact blocks.
2. Combining BST-010S and BST-001S result in overlapping contacts (remain on, or closed, when switch is moved between two positions).

Transformers

Description	Primary Voltage (50/60Hz)	Part Number
Transformers	120V AC	TWD-0126
	240V AC	TWD-0246
	480V AC	TWD-0486

6V secondary voltage (use 6V lamp).

Lenses

Style	Image	Part Number
Extended		ALN06LU-Ⓢ
ø 40mm Mushroom		ALN3LU-Ⓢ

In place of Ⓢ, specify the Lens Color Code.

Full Voltage Clips

Style	Image	Part Number
Full Voltage Clips (2 required for each unit)		APD-F

Required for all full voltage models.

Non-Illuminated Selector Switches (Assembled)



Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Assembled Selector Switches

A S D 2 () () 11 N - ()

Function _____

S: Selector Switch

Series Designation _____

D: TWTD Series

Number of Positions _____

2: 2-Position
3: 3-Position

Spring Return Action _____

Blank: Maintained
1: Spring return from Right
2: Spring return from Left
3: 2-Way spring return from Left and Right

Circuit Number _____

(See Circuit # column of Selector Switch Contact Arrangement Chart on beginning on page 629.)

Contact Arrangement Code

10: 1NO 01: 1NC
20: 2NO 02: 2NC
40: 4NO 04: 4NC
11: 1NO-1NC 22: 2NO-2NC

Operator Style Code

Blank: Knob Operator
L: Lever Operator
K: Key Operator

1. Use only when interpreting part numbers. Do not use for developing part numbers.
2. Custom key removal codes available. Please contact IDEC for details.

Non-Illuminated Selector Switches (Assembled)

Non-Illuminated 2-Position Selector Switches

Style				Part Number			
Contact	Mounting	Operator Position			Maintained	Spring Return from Right	Spring Return from Left
		L	R				
1NO	1	0	X	Knob	ASD210N	ASD2110N	ASD2210N
	2	0	0		Lever Key	ASD2L10N ASD2K10N	ASD21L10N ASD21K10N
1NC	1	X	0	Knob	ASD201N-116	ASD2101N-116	ASD2201N-116
	2	0	0		Lever Key	ASD2L01N-116 ASD2K01N-116	ASD21L01N-116 ASD21K01N-116
1NO 1NC	1	X	0	Knob	ASD211N	ASD2111N	ASD2211N
	2	0	X		Lever Key	ASD2L11N ASD2K11N	ASD21L11N ASD21K11N
2NO	1	0	X	Knob	ASD220N	ASD2120N	ASD2220N
	2	0	X		Lever Key	ASD2L20N ASD2K20N	ASD21L20N ASD21K20N
2NC	1	X	0	Knob	ASD202N-104	ASD2102N-104	ASD2202N-104
	2	X	0		Lever Key	ASD2L02N-104 ASD2K02N-104	ASD21L02N-104 ASD21K02N-104
2NO 2NC	1	0	X	Knob	ASD222N	ASD2122N	ASD2222N
	2	X	0		Lever Key	ASD2L22N ASD2K22N	ASD21L22N ASD21K22N
2NO 2NC	1	0	X	Knob	ASD222N-111	ASD2122N-111	ASD2222N-111
	2	0	X		Lever Key	ASD2L22N-111 ASD2K22N-111	ASD21L22N-111 ASD21K22N-111



- The truth table indicates the operating position of contact block when the operator is switched to that position.
X = On (closed contacts) 0 = Off (open contacts)
X-X = Overlapping Contacts: Remain on (closed contacts) when switch is moved between these two positions.
- All knob and lever selector switches come in black. Other colors are available by ordering the knob or lever separately.
- Custom contact arrangements available, see page 629 or call IDEC for details.

Non-Illuminated 3-Position Selector Switches

Style					Part Number				
Contact	Mounting	Operator Position				Maintained	Spring Return from Right	Spring Return from Left	Spring Return Two-Way
		L	C	R					
2NO	1	X	0	0	Knob	ASD320N	ASD3120N	ASD3220N	ASD3320N
	2	0	0	X		Lever Key	ASD3L20N ASD3K20N	ASD31L20N ASD31K20N	ASD32L20N ASD32K20N
2NC	1	0	X	X	Knob	ASD302N	ASD3102N	ASD3202N	ASD3302N
	2	X	X	0		Lever Key	ASD3L02N ASD3K02N	ASD31L02N ASD31K02N	ASD32L02N ASD32K02N
2NO 2NC	1	X	0	0	Knob	ASD322N	ASD3122N	ASD3222N	ASD3322N
	2	0	0	X		Lever Key	ASD3L22N ASD3K22N	ASD31L22N ASD31K22N	ASD32L22N ASD32K22N
2NO 2NC	1	X	0	X	Knob	ASD322N-309	ASD3122N-309	ASD3222N-309	ASD3322N-309
	2	X	X	0		Lever Key	ASD3L22N-309 ASD3K22N-309	ASD31L22N-309 ASD31K22N-309	ASD32L22N-309 ASD32K22N-309
2NO 2NC	1	0	X	0	Knob	ASD322N-310	ASD3122N-310	ASD3222N-310	ASD3322N-310
	2	0	0	X		Lever Key	ASD3L22N-310 ASD3K22N-310	ASD31L22N-310 ASD31K22N-310	ASD32L22N-310 ASD32K22N-310
4NO	1	X	0	0	Knob	ASD340N	ASD3140N	ASD3240N	ASD3340N
	2	0	0	X		Lever Key	ASD3L40N ASD3K40N	ASD31L40N ASD31K40N	ASD32L40N ASD32K40N
4NC	1	0	X	X	Knob	ASD304N	ASD3104N	ASD3204N	ASD3304N
	2	X	X	0		Lever Key	ASD3L04N ASD3K04N	ASD31L04N ASD31K04N	ASD32L04N ASD32K04N

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers



Non-Illuminated Selector Switches (Sub-Assembled)

Contact Blocks + Operator + Knob or Lever* + Color Insert* = Complete Part†



- 1. *Not needed with key type switches.
- 2. †Knob type shown.

Operators

Appearance	Position	Description	Part Number	
 Knob/Lever	2	Maintained	ASD200	
		Spring return from right	ASD2100	
		Spring return from left	ASD2200	
	3	Maintained, Cam 1 Maintained, Cam 2		ASD300-1 ASD300-2
			Spring return from right, Cam 1 Spring return from right, Cam 2	ASD3100-1 ASD3100-2
		Spring return from left, Cam 1 Spring return from left, Cam 2		ASD3200-1 ASD3200-2
Spring return from left/right, Cam 1 Spring return from left/right, Cam 2			ASD3300-1 ASD3300-2	
 Key		2	Maintained	ASD2K00-RA
			Spring return from right	ASD21K00-RL
	Spring return from left		ASD22K00	
	3	Maintained, Cam 1 Maintained, Cam 2		ASD3K00-1 ASD3K00-2
			Spring return from right, Cam 1 Spring return from right, Cam 2	ASD31K00-1-RLC ASD31K00-2-RLC
		Spring return from left, Cam 1 Spring return from left, Cam 2	ASD32K00-1-RRC ASD32K00-2-RRC	
Spring return from left/right, Cam 1 Spring return from left/right, Cam 2	ASD33K00-1-RC ASD33K00-2-RC			

- 1. Order knobs, levers, color inserts separately (see below).
- 2. For key switches, keys are removable in all maintained positions. Other options available, contact IDEC for details.
- 3. See page 631 "Operator Truth Tables" for details of difference between cams.

① Color Codes

Knob/Lever Color	Code
Black	B
Blue	S
Green	G
Red	R
Yellow	Y
White	W


- 1. Knob/Lever not available in white.
- 2. Color inserts not available in Black.
- 3. Lever not available in yellow.

Handles and Inserts

Style	Part Number
 Knob	ASDHHY-⊙
 Lever	ASDHHL-⊙*
 Color Insert	TW-HC1-⊙

- 1. In place of ⊙, specify the Color Code.
*Not available in yellow.

Contact Blocks

Style	Part Number	
	1NO	1NC
	BST-010	BST-001
	BST-010S (early make)	BST-001S (late break)
Dummy Block	BST-D	

- 1. Dummy blocks (no contacts) are used with an odd number of contact blocks.
- 2. Combining BST-010S and BST-001S results in overlapping contacts (remain on, or closed, when switch is moved between two positions).

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Illuminated Selector Switches (Assembled)



Assembled Illuminated Selector Switches

A SL D 2 (2) 99 11 D N - 111 - R - 24

Function

SL: Illuminated Selector Switch

Series Designation

D: TWTD series

Number of Positions

2: 2-Position
3: 3-Position

Spring Return Action

Blank: Maintained
1: Spring return from Right
2: Spring return from Left
3: Two-Way spring return from Left and Right

Rated Operational Voltage (Primary)

Transformer Type	Full Voltage Type
126: 120V AC	99: Full Voltage
246: 240V AC	
486: 480V AC	

Contact Arrangement Code

20: 2NO	02: 2NC
40: 4NO	04: 4NC
11: 1NO-1NC	22: 2NO-2NC

Lamp Voltage

(Full Voltage Units Only)

6V: 6V AC/DC
12V: 12V AC/DC
24V: 24V AC/DC
120V: 120V AC
240V: 240V AC (LED only)

Lens Color Code

A: Amber
G: Green
R: Red
S: Blue
W: White
Y: Yellow

Circuit Code Number

See Circuit # column of Selector Switch Contact Arrangement Charts on page 629.

Lamp Type

Blank: Incandescent Lamp
D: LED Lamp



Use only when interpreting part numbers. Do not use for developing part numbers.

Illuminated Selector Switches(Assembled)

Illuminated 2-Position Selector Switches

Style					Part Number		
Contact	Mounting	Operator Position		Lamp Circuit Type	Maintained	Spring Return from Right	Spring Return from Left
		L	R				
1NO 1NC	1	0	X	Transformer	ASLD2 ④11⑤N-②	ASLD21 ④11⑤N-②	ASLD22 ④11⑤N-②
	2	X	0	Full Voltage	ASLD29911⑤N-②-③	ASLD219911⑤N-②-③	ASLD229911⑤N-②-③
2NO	1	0	X	Transformer	ASLD2 ④20⑤N-②	ASLD21 ④20⑤N-②	ASLD22 ④20⑤N-②
	2	0	X	Full Voltage	ASLD29920⑤N-②-③	ASLD219920⑤N-②-③	ASLD229920⑤N-②-③
2NC	1	X	0	Transformer	ASLD2 ④02⑤N-104-②	ASLD21 ④02⑤N-104-②	ASLD22 ④02⑤N-104-②
	2	X	0	Full Voltage	ASLD29902⑤N-104-②-③	ASLD219902⑤N-104-②-③	ASLD229902⑤N-104-②-③
2NO 2NC	1	0	X	Transformer Full Voltage	ASLD2 ④22⑤N-② ASLD29922⑤N-②-③	ASLD21 ④22⑤N-② ASLD219922⑤N-②-③	ASLD22 ④22⑤N-② ASLD229922⑤N-②-③
	2	X	0				
2NO 2NC	3	0	X	Transformer Full Voltage	ASLD2 ④22⑤N-② ASLD29922⑤N-②-③	ASLD21 ④22⑤N-② ASLD219922⑤N-②-③	ASLD22 ④22⑤N-② ASLD229922⑤N-②-③
	4	X	0				
2NO 2NC	1	0	X	Transformer Full Voltage	ASLD2 ④22⑤N-111-② ASLD29922⑤N-111-②-③	ASLD21 ④22⑤N-111-② ASLD219922⑤N-111-②-③	ASLD22 ④22⑤N-111-② ASLD229922⑤N-111-②-③
	2	0	X				
2NO 2NC	3	X	0	Transformer Full Voltage	ASLD2 ④22⑤N-111-② ASLD29922⑤N-111-②-③	ASLD21 ④22⑤N-111-② ASLD219922⑤N-111-②-③	ASLD22 ④22⑤N-111-② ASLD229922⑤N-111-②-③
	4	X	0				

② LED/Lens Color Codes

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W
Yellow	Y

③ Full Voltage Codes

Voltage	Code
6V AC/DC	6V
12V AC/DC	12V
24V AC/DC	24V
120V AC	120V
240V AC	240V (LED only)

Illuminated 3-Position Selector Switches, Maintained and Spring Return

Style					Part Number				
Contact	Mounting	Operator Position			Lamp Circuit Type	Maintained	Spring Return From Right	Spring Return from Left	Spring Return Two-Way
		L	C	R					
2NO	1	X	0	0	Transformer	ASLD3 ④ 20⑤N-②	ASLD31 ④ 20⑤N-②	ASLD32 ④ 20⑤N-②	ASLD33 ④ 20⑤N-②
	2	0	0	X	Full Voltage	ASLD39920⑤N-②-③	ASLD319920⑤N-②-③	ASLD329920⑤N-②-③	ASLD339920⑤N-②-③
2NC	1	0	X	X	Transformer	ASLD3 ④ 02⑤N-②	ASLD31 ④ 02⑤N-②	ASLD32 ④ 02⑤N-②	ASLD33 ④ 02⑤N-②
	2	X	X	0	Full Voltage	ASLD39902⑤N-②-③	ASLD319902⑤N-②-③	ASLD329902⑤N-②-③	ASLD339902⑤N-②-③
2NO 2NC	1	X	0	0	Transformer Full Voltage	ASLD3 ④ 22⑤N-② ASLD39922⑤N-②-③	ASLD31 ④ 22⑤N-② ASLD319922⑤N-②-③	ASLD32 ④ 22⑤N-② ASLD329922⑤N-②-③	ASLD33 ④ 22⑤N-② ASLD339922⑤N-②-③
	2	0	0	X					
2NO 2NC	3	0	X	X	Transformer Full Voltage	ASLD3 ④ 22⑤N-② ASLD39922⑤N-②-③	ASLD31 ④ 22⑤N-② ASLD319922⑤N-②-③	ASLD32 ④ 22⑤N-② ASLD329922⑤N-②-③	ASLD33 ④ 22⑤N-② ASLD339922⑤N-②-③
	4	X	X	0					
2NO 2NC	1	X	0	X	Transformer Full Voltage	ASLD3 ④ 22⑤N-309-② ASLD39922⑤N-309-②-③	ASLD31 ④ 22⑤N-309-② ASLD319922⑤N-309-②-③	ASLD32 ④ 22⑤N-309-② ASLD329922⑤N-309-②-③	ASLD33 ④ 22⑤N-309-② ASLD339922⑤N-309-②-③
	2	X	X	0					
2NO 2NC	3	0	X	0	Transformer Full Voltage	ASLD3 ④ 22⑤N-309-② ASLD39922⑤N-309-②-③	ASLD31 ④ 22⑤N-309-② ASLD319922⑤N-309-②-③	ASLD32 ④ 22⑤N-309-② ASLD329922⑤N-309-②-③	ASLD33 ④ 22⑤N-309-② ASLD339922⑤N-309-②-③
	4	0	0	X					
2NO 2NC	1	0	X	0	Transformer Full Voltage	ASLD3 ④ 22⑤N-310-② ASLD39922⑤N-310-②-③	ASLD31 ④ 22⑤N-310-② ASLD319922⑤N-310-②-③	ASLD32 ④ 22⑤N-310-② ASLD329922⑤N-310-②-③	ASLD33 ④ 22⑤N-310-② ASLD339922⑤N-310-②-③
	2	0	0	X					
2NO 2NC	3	0	X	0	Transformer Full Voltage	ASLD3 ④ 22⑤N-310-② ASLD39922⑤N-310-②-③	ASLD31 ④ 22⑤N-310-② ASLD319922⑤N-310-②-③	ASLD32 ④ 22⑤N-310-② ASLD329922⑤N-310-②-③	ASLD33 ④ 22⑤N-310-② ASLD339922⑤N-310-②-③
	4	0	0	X					
4NO	1	X	0	0	Transformer Full Voltage	ASLD3 ④ 40⑤N-② ASLD39940⑤N-②-③	ASLD31 ④ 40⑤N-② ASLD319940⑤N-②-③	ASLD32 ④ 40⑤N-② ASLD329940⑤N-②-③	ASLD33 ④ 40⑤N-② ASLD339940⑤N-②-③
	2	0	0	X					
4NO	3	X	0	0	Transformer Full Voltage	ASLD3 ④ 40⑤N-② ASLD39940⑤N-②-③	ASLD31 ④ 40⑤N-② ASLD319940⑤N-②-③	ASLD32 ④ 40⑤N-② ASLD329940⑤N-②-③	ASLD33 ④ 40⑤N-② ASLD339940⑤N-②-③
	4	0	0	X					
4NC	1	0	X	X	Transformer Full Voltage	ASLD3 ④ 04⑤N-② ASLD39904⑤N-②-③	ASLD31 ④ 04⑤N-② ASLD319904⑤N-②-③	ASLD32 ④ 04⑤N-② ASLD329904⑤N-②-③	ASLD33 ④ 04⑤N-② ASLD339904⑤N-②-③
	2	X	X	0					
4NC	3	0	X	X	Transformer Full Voltage	ASLD3 ④ 04⑤N-② ASLD39904⑤N-②-③	ASLD31 ④ 04⑤N-② ASLD319904⑤N-②-③	ASLD32 ④ 04⑤N-② ASLD329904⑤N-②-③	ASLD33 ④ 04⑤N-② ASLD339904⑤N-②-③
	4	X	X	0					



- In place of ②, specify the Lens/LED Color Code, in place of ③, specify the Full Voltage (lamp voltage) Code, in place of ④, specify the Transformer Voltage Code and in place of ⑤ specify the Lamp Type Code.
- The truth table indicates the operating position of contact block when the operator is switched to that position.
X = On (Closed Contacts) 0 = Off (Open Contacts)
X—X = Overlapping Contacts: Remain on (closed contacts) when switch is moved between these positions
- Yellow selector switch comes with white LED.

④ Transformer Voltage Codes

Voltage	Code
120VAC	126
240VAC	246
480VAC	486

⑤ Lamp Type Codes

Lamp	Code
Incandescent	Blank
LED	D



Transformers step down to 6V (use 6V lamp).

Light is independent of switch position.

Illuminated Selector Switches (Sub-Assembled)



*Not required for full voltage units (use APD-F full voltage clips instead).

Operators

Style	Position	Description	Part Number
Operator	2	Maintained	ASLD200
	3	Maintained, Cam 1	ASLD300-1
		Maintained, Cam 2	ASLD300-2
	2	Spring return from right	ASLD2100
		Spring return from left	ASLD2200
	3	Spring return from right, Cam 1	ASLD3100-1
		Spring return from right, Cam 2	ASLD3100-2
		Spring return from left, Cam 1	ASLD3200-1
Spring return from left, Cam 2		ASLD3200-2	
3	Spring return from left/right, Cam 1	ASLD3300-1	
	Spring return from left/right, Cam 2	ASLD3300-2	

Contact Blocks

Style	Part Number	
	1NO	1NC
	BST-010	BST-001
	BST-010S (early make)	BST-001S (late break)
Dummy Block	BST-D	



- Dummy blocks (no contacts) are used with an odd number of contact blocks.
- Combining BST-010S and BST-001S results in overlapping contacts (remain on, or closed, when switch is moved between two positions).

Full Voltage Clips

Style	Part Number
	APD-F



Required for all full voltage models.

Transformers

Description	Primary Voltage (50/60Hz)	Part Number
	120V AC	TWD-0126
	240V AC	TWD-0246
	480V AC	TWD-0486



6V secondary voltage.

② LED/Lens Color Codes

Color	Code	Color	Code
Amber	A	Blue	S
Green	G	White	W
Red	R	Yellow	Y



Yellow lens only. Yellow LED not available, use white LED.

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Lenses

Description	Part Number
	ASLNHU-①

Lamps

Style	Voltage	Part Number
	6V AC/DC	LSTD-6②
	12V AC/DC	LSTD-1②
	24V AC/DC	LSTD-2②
	120V AC	LSTD-H2②
	240V AC	LSTD-M4②
	6V AC/DC	IS-6
	12V AC/DC	IS-12
	24V AC/DC	IS-24
	120V AC	L-120L

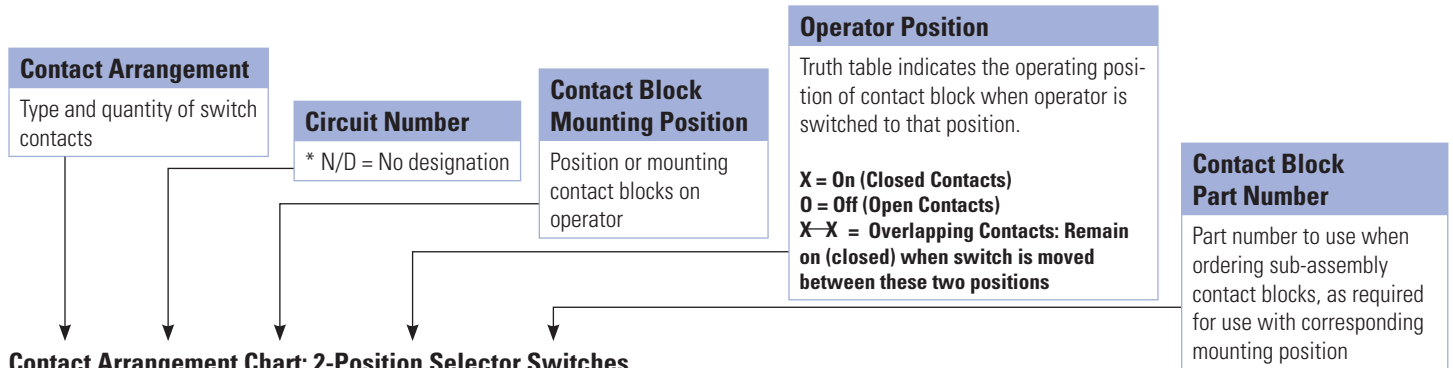


- In place of ②, specify the LED color code.
- The LED contains a current-limiting resistor and a protection diode.

Contact Arrangement Charts

How to Read Contact Arrangement Charts

To determine contact block mounting position, first make sure the selector switch is oriented as shown on the right



Contact Arrangement Chart: 2-Position Selector Switches

Style		Mounting Position	Operator Position		Contact Block Part Number	Description	Operator Part Number		
Contact	Circuit Number		L	R			Maintained	Spring Return from Right	Spring Return from Left
1NO	N/D	1	O	X	BST-010	Knob/Lever Key	ASD200 ASD2K00 ASLD200	ASD2100 ASD21K00 ASLD2100	ASD2200 ASD22K00 ASLD2200
		2	O	O	BST-D	Illuminated Knob			
1NC	116	1	X	O	BST-001	Knob/Lever Key	ASD200 ASD2K00 ASLD200	ASD2100 ASD21K00 ASLD2100	ASD2200 ASD22K00 ASLD2200
		2	O	O	BST-D	Illuminated Knob			
1NO 1NC	N/D	1	O	X	BST-010	Knob/Lever Key	ASD200 ASD2K00 ASLD200	ASD2100 ASD21K00 ASLD2100	ASD2200 ASD22K00 ASLD2200
		2	X	O	BST-001	Illuminated Knob			
	103	1	X	O	BST-001	Knob/Lever Key	ASD200 ASD2K00 ASLD200	ASD2100 ASD21K00 ASLD2100	ASD2200 ASD22K00 ASLD2200
		2	O	X	BST-010	Illuminated Knob			
1NO-EM 1NC-LB	600	1	O	X	BST-010S	Knob/Lever Key	ASD200 ASD2K00 ASLD200	ASD2100 ASD21K00 ASLD2100	ASD2200 ASD22K00 ASLD2200
		2	X	O	BST-001S	Illuminated Knob			
	601	1	X	O	BST-001S	Knob/Lever Key	ASD200 ASD2K00 ASLD200	ASD2100 ASD21K00 ASLD2100	ASD2200 ASD22K00 ASLD2200
		2	O	X	BST-010S	Illuminated Knob			
2NO	N/D	1	O	X	BST-010	Knob/Lever Key	ASD200 ASD2K00 ASLD200	ASD2100 ASD21K00 ASLD2100	ASD2200 ASD22K00 ASLD2200
		2	O	X	BST-010	Illuminated Knob			
2NC	104	1	X	O	BST-001	Knob/Lever Key	ASD200 ASD2K00 ASLD200	ASD2100 ASD21K00 ASLD2100	ASD2200 ASD22K00 ASLD2200
		2	X	O	BST-001	Illuminated Knob			
2NO 2NC	N/D	1	O	X	BST-010	Knob/Lever Key Illuminated Knob	ASD200 ASD2K00 ASLD200	ASD2100 ASD21K00 ASLD2100	ASD2200 ASD22K00 ASLD2200
		2	X	O	BST-001				
		3	O	X	BST-010				
		4	X	O	BST-001				
	110	1	X	O	BST-001	Knob/Lever Key Illuminated Knob	ASD200 ASD2K00 ASLD200	ASD2100 ASD21K00 ASLD2100	ASD2200 ASD22K00 ASLD2200
		2	O	X	BST-010				
		3	X	O	BST-001				
		4	O	X	BST-010				
	111	1	O	X	BST-010	Knob/Lever Key Illuminated Knob	ASD200 ASD2K00 ASLD200	ASD2100 ASD21K00 ASLD2100	ASD2200 ASD22K00 ASLD2200
		2	O	X	BST-010				
		3	X	O	BST-001				
		4	X	O	BST-001				
4NO	N/D	1	O	X	BST-010	Knob/Lever Key Illuminated Knob	ASD200 ASD2K00 ASLD200	ASD2100 ASD21K00 ASLD2100	ASD2200 ASD22K00 ASLD2200
		2	O	X	BST-010				
		3	O	X	BST-010				
		4	O	X	BST-010				

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Contact Arrangement Chart: 3-Position Selector Switches

Style	Contact	Circuit Number	Mounting Position	Operator Position			Contact Block Part Number	Description	Operator Part Number			
				L	C	R			Maintained	Spring Return from Right	Spring Return from Left	Two-Way
1NO 1NC	202	1	X	0	0	BST-010	Knob/Lever Key	ASD300-1 ASD3K00-1 ASLD300-1	ASD3100-1 ASD31K00-1 ASLD3100-1	ASD3200-1 ASD32K00-1 ASLD3200-1	ASD3300-1 ASD33K00-1 ASLD3300-1	
		2	X	X	0	BST-001	Illuminated Knob					
	203	1	0	X	X	BST-001	Knob/Lever Key	ASD300-1 ASD3K00-1 ASLD300-1	ASD3100-1 ASD31K00-1 ASLD3100-1	ASD3200-1 ASD32K00-1 ASLD3200-1	ASD3300-1 ASD33K00-1 ASLD3300-1	
		2	0	0	X	BST-010	Illuminated Knob					
	302	1	X	0	X	BST-010	Knob/Lever Key	ASD300-2 ASD3K00-2 ASLD300-2	ASD3100-2 ASD31K00-2 ASLD3100-2	ASD3200-2 ASD32K00-2 ASLD3200-2	ASD3300-2 ASD33K00-2 ASLD3300-2	
		2	X	X	0	BST-001	Illuminated Knob					
	303	1	0	X	0	BST-001	Knob/Lever Key	ASD300-2 ASD3K00-2 ASLD300-2	ASD3100-2 ASD31K00-2 ASLD3100-2	ASD3200-2 ASD32K00-2 ASLD3200-2	ASD3300-2 ASD33K00-2 ASLD3300-2	
		2	0	0	X	BST-010	Illuminated Knob					
	2NO	N/D	1	X	0	0	BST-010	Knob/Lever Key	ASD300-1 ASD3K00-1 ASLD300-1	ASD3100-1 ASD31K00-1 ASLD3100-1	ASD3200-1 ASD32K00-1 ASLD3200-1	ASD3300-1 ASD33K00-1 ASLD3300-1
			2	0	0	X	BST-010	Illuminated Knob				
301		1	X	0	X	BST-010	Knob/Lever Key	ASD300-2 ASD3K00-2 ASLD300-2	ASD3100-2 ASD31K00-2 ASLD3100-2	ASD3200-2 ASD32K00-2 ASLD3200-2	ASD3300-2 ASD33K00-2 ASLD3300-2	
		2	0	0	X	BST-010	Illuminated Knob					
2NC	304	1	0	X	0	BST-001	Knob/Lever Key	ASD300-2 ASD3K00-2 ASLD300-2	ASD3100-2 ASD31K00-2 ASLD3100-2	ASD3200-2 ASD32K00-2 ASLD3200-2	ASD3300-2 ASD33K00-2 ASLD3300-2	
		2	X	X	0	BST-001	Illuminated Knob					
	N/D	1	0	X	X	BST-001	Knob/Lever Key	ASD300-1 ASD3K00-1 ASLD300-1	ASD3100-1 ASD31K00-1 ASLD3100-1	ASD3200-1 ASD32K00-1 ASLD3200-1	ASD3300-1 ASD33K00-1 ASLD3300-1	
		2	X	X	0	BST-001	Illuminated Knob					
2NO 2NC	N/D	1	X	0	0	BST-010	Knob/Lever Key Illuminated Knob	ASD300-1 ASD3K00-1 ASLD300-1	ASD3100-1 ASD31K00-1 ASLD3100-1	ASD3200-1 ASD32K00-1 ASLD3200-1	ASD3300-1 ASD33K00-1 ASLD3300-1	
		2	0	0	X	BST-010						
		3	0	X	X	BST-001						
		4	X	X	0	BST-001						
	210	1	0	X	X	BST-001	Knob/Lever Key Illuminated Knob	ASD300-1 ASD3K00-1 ASLD300-1	ASD3100-1 ASD31K00-1 ASLD3100-1	ASD3200-1 ASD32K00-1 ASLD3200-1	ASD3300-1 ASD33K00-1 ASLD3300-1	
		2	0	0	X	BST-010						
		3	0	X	X	BST-001						
		4	0	0	X	BST-010						
	308	1	X	0	X	BST-010	Knob/Lever Key Illuminated Knob	ASD300-2 ASD3K00-2 ASLD300-2	ASD3100-2 ASD31K00-2 ASLD3100-2	ASD3200-2 ASD32K00-2 ASLD3200-2	ASD3300-2 ASD33K00-2 ASLD3300-2	
		2	X	X	0	BST-001						
		3	X	0	X	BST-010						
		4	X	X	0	BST-001						
309	1	X	0	X	BST-010	Knob/Lever Key Illuminated Knob	ASD300-2 ASD3K00-2 ASLD300-2	ASD3100-2 ASD31K00-2 ASLD3100-2	ASD3200-2 ASD32K00-2 ASLD3200-2	ASD3300-2 ASD33K00-2 ASLD3300-2		
	2	X	X	0	BST-001							
	3	0	X	0	BST-001							
	4	0	0	X	BST-010							
310	1	0	X	0	BST-001	Knob/Lever Key Illuminated Knob	ASD300-2 ASD3K00-2 ASLD300-2	ASD3100-2 ASD31K00-2 ASLD3100-2	ASD3200-2 ASD32K00-2 ASLD3200-2	ASD3300-2 ASD33K00-2 ASLD3300-2		
	2	0	0	X	BST-010							
	3	0	X	0	BST-001							
	4	0	0	X	BST-010							

- Each operator sub-assembly is available as a "-1" and a "-2" for 3-position selector switches. The internal cam of a "-1" is different from that of a "-2". This results in designated combinations of open and closed contacts in the various operator positions.
- N/D = No circuit number designation required in assembled part number.
- X = On (closed contacts) 0 = Off (open contacts). X-X Overlapping contacts remain on (closed) when switch is moved between these two positions.

Circuit Breakers

Terminal Blocks

Timers

Relays & Sockets

Display Lights

Switches & Pilot Lights

Contact Arrangement Chart: 3-Position Selector Switches

Style		Mounting Position	Operator Position			Contact Block Part Number	Description	Operator Part Number			
Contact	Circuit Number		L	C	R			Maintained	Spring Return from Right	Spring Return from Left	Two-Way
4NO	N/D	1	X	0	0	BST-010	Knob/Lever Key Illuminated Knob	ASD300-1 ASD3K00-1 ASLD300-1	ASD3100-1 ASD31K00-1 ASLD3100-1	ASD3200-1 ASD32K00-1 ASLD3200-1	ASD3300-1 ASD33K00-1 ASLD3300-1
		2	0	0	X	BST-010					
		3	X	0	0	BST-010					
		4	0	0	X	BST-010					
	305	1	X	0	X	BST-010	Knob/Lever Key Illuminated Knob	ASD300-2 ASD3K00-2 ASLD300-2	ASD3100-2 ASD31K00-2 ASLD3100-2	ASD3200-2 ASD32K00-2 ASLD3200-2	ASD3300-2 ASD33K00-2 ASLD3300-2
		2	0	0	X	BST-010					
		3	X	0	X	BST-010					
		4	0	0	X	BST-010					
4NC	N/D	1	0	X	X	BST-001	Knob/Lever Key Illuminated Knob	ASD300-1 ASD3K00-1 ASLD300-1	ASD3100-1 ASD31K00-1 ASLD3100-1	ASD3200-1 ASD32K00-1 ASLD3200-1	ASD3300-1 ASD33K00-1 ASLD3300-1
		2	X	X	0	BST-001					
		3	0	X	X	BST-001					
		4	X	X	0	BST-001					
	314	1	0	X	0	BST-001	Knob/Lever Key Illuminated Knob	ASD300-2 ASD3K00-2 ASLD300-2	ASD3100-2 ASD31K00-2 ASLD3100-2	ASD3200-2 ASD32K00-2 ASLD3200-2	ASD3300-2 ASD33K00-2 ASLD3300-2
		2	X	X	0	BST-001					
		3	0	X	0	BST-001					
		4	X	X	0	BST-001					

- Each operator sub-assembly is available as a "-1" and a "-2" for 3-position selector switches. The internal cam of a "-1" is different from that of a "-2". This results in designated combinations of open and closed contacts in the various operator positions.
- N/D = No circuit number designation required in assembled part number.
- X = On (closed contacts) 0 = Off (open contacts). X-X Overlapping contacts remain on (closed) when switch is moved between these two positions.

Operator Truth Tables

Use the following tables to build custom selector switches.

2 Position Selector Switches

	Contact	Mounting Position	Operator Position	
			Left	Right
ASD200	BST-010 (NO)	L	0	X
		R	0	X
	BST-001 (NC)	L	X	0
		R	X	0
	BST-010S (NO-EM)	L	0	X-X
		R	0	X-X
	BST-001S (NC-LB)	L	X-X	0
		R	X-X	0

3 Position Selector Switches

	Contact	Mounting Position	Operator Position		
			Left	Center	Right
ASD300-1 ASLD300-1 ASD3K00-1	BST-010 (NO)	L	X	0	0
		R	0	0	X
	BST-001 (NC)	L	0	X-X	X
		R	X-X	X	0
	BST-010S (NO-EM)	L	X-X	0	0
		R	0	0	X
	BST-001S (NC-LB)	L	0	X-X	X
		R	X-X	X	0

3 Position Push/Pull Switches

	Contact	Operator Position		
		Pull	Normal	Push
AYLD22	BST-010 (NO)	0	0	X
	BST-001 (NC)	X	0	0
	BST-010S (NO-EM)	0	X	X
	BST-001S (NC-LB)	X	X	0

	Contact	Mounting Position	Operator Position		
			Left	Center	Right
ASD300-2 ASLD300-2 ASD3K00-2	BST-010 (NO)	L	X	0	X
		R	0	0	X
	BST-001 (NC)	L	0	X	0
		R	X-X	X	0
	BST-010S (NO-EM)	L	X-X	0	X
		R	0	0	X
	BST-001S (NC-LB)	L	0	X-X	0
		R	X-X	X	0

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Accessories – TWTD Series

TWTD Series Accessories

Appearance	Description/Usage	Part Number
Lamp Removal Tool		Rubber tool used to install or remove LED's and incandescent lamps OR-55
Metal Bezel		Standard octagonal units (chrome-pl.). OG-81
		Extended, non-illuminated (chrome-pl.). OG-82
		Extended, illuminated (chrome-pl.). OG-83L
		Jumbo Mushroom Shallow Shroud ABN4G
		Jumbo Mushroom Deep Shroud ABN4F
Plastic Bezel		Black plastic locking ring/bezel OGP11B
Boot/Cover		In place of ⊕, specify Rubber Boot color: B (black), G (green), R (red), Y (yellow) OC-11 ⊕
		Flush units (clear plastic -40° to +60°C). OC-121
		Extended units (clear plastic -40° to +60°C). OC-122
Anti-Rotation Ring		Plastic washer For nameplates or panels that should not be scratched. OGL-D1T
		Thrust washer/Anti-rotation ring for use with notched panel cutout. OGL-D1S
Mounting Hole Plug		Plugs used to fill unused 30mm panel cutouts.
		Plastic with locking nut attached. OBP-11
		Metal with locking nut attached OB-11
Terminal Tab Adaptor		Grey rubber (-5° to +60°C) OB-13
		Tab #250 17/64" x 3/64" (6.35mm x 0.8mm): Single tab TW-FA1
Full Voltage Adaptor		Used on all full voltage illuminated units. Two required per unit. (M3.5 screw and saddle) APD-F
Lock Out Adaptor		Used to provide lockout protection for TWTD pushbuttons and knob selectors. ø 1-13/64" (30mm) OL-KL1
Replacement Keys		Pair of keys (#0) TW-SK

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Fingersafe Covers for TWTD Series

Appearance	Description	Used with	Part Number
	Fingersafe terminal cover, for full voltage pilot lights, adds 3mm to overall depth	APD199... full voltage pilot lights	APD-PVL
	Fingersafe terminal cover, for contact blocks, adds 3mm to overall depth	Non-Illuminated pushbuttons ABD..., and AOD...	N-VL2
	Fingersafe terminal cover, adds 1.5mm to overall depth	Transformer pilot lights and illuminated units	N-VL3
	Fingersafe terminal cover, adds 4 mm to depth	Full voltage illuminated pushbuttons	N-VL4



Dimensions on page 637.

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Nameplates – TWTD Series

Faceplates

	NALD	NAKD	NAQD	HNAV
Dimensions				
Description	Part Number			
Nameplate (blank)	NALD-B (black) NALD-R (red)	NAKD-B (black) NAKD-R (red)	NAQD-B (black) NAQD-R (red)	HNAV-0
Nameplate (engraved)	NALD-⓪	NAKD-⓪	NAQD-⓪	HNAV-27 "Emergency Stop"

1. Nameplates are made of 0.031" aluminum. Lettering is white letters engraved on black background.
2. In place of ⓪, insert either the standard legend code from table below or custom engraving delimited by " ".
3. HNAV available in yellow only.

Standard Legend Codes

Pushbuttons				Pushbuttons/Selector Switches				Selector Switches	
Legend	Code	Legend	Code	Legend	Code	Legend	Code	Legend	Code
AUTO	101	OPEN	116	AUTO-MAN	201			AUTO-MAN-OFF	301
CLOSE	102	OUT	117	CLOSE-OPEN	202			AUTO-OFF-MAN	302
DOWN	103	RAISE	118	DOWN-UP	203			CLOSE-OFF-OPEN	303
EMERG.STOP*	104	RESET	119	FAST-SLOW	204			DOWN-OFF-SLOW	304
FAST	105	REVERSE	120	FOR-REV	205	REV-FOR	216	FAST-OFF-SLOW	305
FORWARD	106	RUN	121	HAND-AUTO	206	RUN-JOG	217	FOR-OFF-REV	306
HAND	107	SLOW	122	HIGH-LOW	207	RUN-SAFE	218	LEFT-OFF-RIGHT	307
HIGH	108	START	123	JOG-RUN	208	SAFE-RUN	219	LOWER-OFF-RAISE	308
IN	109	STOP*	124	LEFT-RIGHT	209	SLOW-FAST	220	OFF-MAN-AUTO	309
INCH	110	STOP	125	LOWER-RAISE	210	START-STOP	221	OFF-SLOW-FAST	310
JOG	111	TEST	126	MAN-AUTO	211	STOP-START	222	OFF-1-2	311
LOW	112	UP	127	OFF-ON	212	UP-DOWN	223	OPEN-OFF-CLOSE	312
LOWER	113	I (Int'l On)	150	ON-OFF	213			SLOW-OFF-FAST	313
OFF	114	O (Int'l Off)	151	OPEN-CLOSE	214			SUMMER-OFF-WINTER	314
ON	115	EMO	152	RAISE-LOWER	215			UP-OFF-DOWN	315
								1-OFF-2	316
								HAND-OFF-AUTO	317

1. *Available in Red as standard legend code 104 and 124. To order engraved nameplate and codes, add legend code to nameplate part number. Character height based on the number of characters, space and size of nameplate. Standard character size is 3/16".
2. Nameplates with standard legends are the same list price as blank nameplates. Special engravings, additional cost.

To specify engraving instructions, use the Nameplate order form on next page.

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

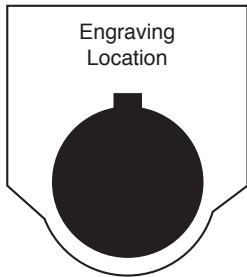
Custom engraved Nameplates Order Form — TWTD Series

Copy this order form and use it to specify Letter Height, Custom Engravings, Location of Engraving on Nameplate, and Quantity Desired. To ensure engraving accuracy, fax it to your IDEC representative. or Distributor.

Your Company Name: _____
 Your Name: _____
 Telephone: _____
 Fax & Email: _____

IDEC Rep/Distributor Contact: _____
 PO number (if known): _____
 IDEC Rep/Distributor Phone: _____
 IDEC Rep/Distributor Fax & Email: _____

NALD Nameplate



Step 1.
 Choose Letter Size - 7/64" or 1/8".
 Check the box for the letter size you want. Then write your lettering in box below checkboxes. Note: 1/8" size letters cannot exceed 13 characters.

Step 2.
 Specify Quantity.
 Enter the number of nameplates desired in the box on the right.

Qty

Sample Letter Sizes

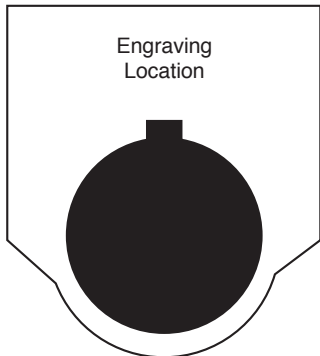
7/64" Letters: A B C D
 1/8" Letters: A B C D

7/64"
 Letter Size 11 characters max (for 7/64" size letters)

1/8"
 Letter Size 9 characters max (for 1/8" size letters)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

NAKD Nameplate



Step 1.
 Choose Letter Size - 7/64" or 1/8".
 Check the box for the letter size you want. Then write your lettering in box below checkboxes. Note: 1/8" size letters cannot exceed 9 characters.

Step 2.
 Specify Quantity.
 Enter the number of nameplates desired in the box on the right.

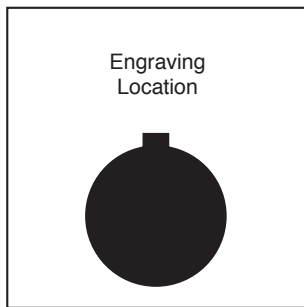
Qty

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

Sample Letter Sizes

1/8" Letters: A B C D

NAQD Nameplate



Step 1.
 Choose Letter Size - 7/64" or 1/8".
 Check the box for the letter size you want. Then write your lettering in box below checkboxes. Note: 1/8" size letters cannot exceed 16 characters.

Step 2.
 Specify Quantity.
 Enter the number of nameplates desired in the box on the right.

Qty

7/64"
 Letter Size 20 characters max (for 7/64" size letters)

1/8"
 Letter Size 16 characters max (for 1/8" size letters)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Sample Letter Sizes

3/32" Letters: A B C D
 1/8" Letters: A B C D

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Switch Engraving Order Form – TWTD Series

Copy this order form and use it to specify Letter Height, Maximum Number of Lines and Text to be engraved.

To insure engraving accuracy, fax it to your IDEC representative or Distributor.

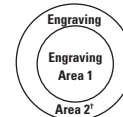
Your Company: _____
 Name: _____
 Address: _____
 PO: _____

Telephone: _____
 Fax: _____
 Email: _____
 Part Number to be Engraved: _____

Please check one of the boxes below to indicate your choice of engraving options:



ø29mm, ø40mm Mushroom Head



	# of Lines	Letter Height	Max. Characters Per Line
<input type="checkbox"/>	1	5/32	7
<input type="checkbox"/>		1/8	8
<input type="checkbox"/>	2	5/32	7
<input type="checkbox"/>		1/8	8
<input type="checkbox"/>	3	1/8	8
<input type="checkbox"/>	4	Custom*	

	# of Lines	Letter Height	Max. Characters Per Line
<input type="checkbox"/>	1	3/4	4
<input type="checkbox"/>		5/16	5
<input type="checkbox"/>	2	5/16	5
<input type="checkbox"/>		1/4	6
<input type="checkbox"/>		5/32	8
<input type="checkbox"/>	3	5/32	8
<input type="checkbox"/>		1/8	9
<input type="checkbox"/>	4	1/8	9

	# of Lines	Letter Height	Max. Characters Per Line
<input type="checkbox"/>	Engraving Area 1	5/32	5
<input type="checkbox"/>		1/8	5
<input type="checkbox"/>	Engraving Area 2	5/32	7
<input type="checkbox"/>		1/8	7

- Above mentioned specifications hold true for standard size push-buttons (round and square).
- *Engraving Area 2 can be engraved for 40mm mushroom head non-illuminated pushbutton only.
- Engraving is done on the button itself for non-illuminated push buttons and on marking plate for illuminated push buttons and pilot lights.
- Please enter text exactly how you want it engraved, take care to emphasize capital or small letters.

*Engraving is possible, but character size will be smaller than standard sizes.



	# of Lines	Letter Height	Max. Characters Per Line
<input type="checkbox"/>	1	5/32	7
<input type="checkbox"/>		1/8	8
<input type="checkbox"/>	2	5/32	7
<input type="checkbox"/>		1/8	8
<input type="checkbox"/>	3	1/8	8
<input type="checkbox"/>	4	Custom*	

Enter text to be engraved:

Line 1: _____
 Line 2: _____
 Line 3: _____
 Line 4: _____

Sample Letter Sizes

1/8 Letters: **OPEN**

5/32 Letters: **OPEN**



All engraving is 5/8mm wide.

*Engraving is possible, but character size will be smaller than standard sizes.

For IDEC Internal Use Only:

Work Order #: _____

Switches & Pilot Lights

Display Lights

Relays & Sockets

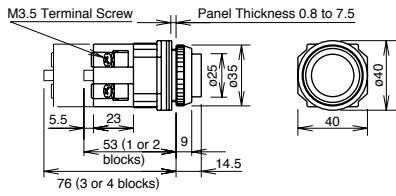
Timers

Terminal Blocks

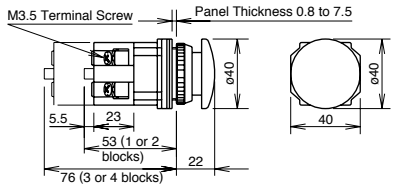
Circuit Breakers

Dimensions

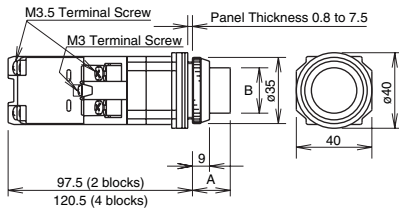
Pushbutton



Mushroom Pushbutton w/Full Shroud



Illuminated Pushbuttons w/AC Adapter w/Transformer



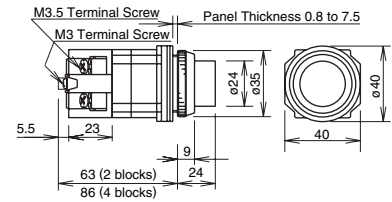
Illuminated Pushbuttons	Dimension A	Dimension B
Flush w/Full Shroud	0.975" (25mm) 0.995" (25.5mm)	ø 0.936" (24mm) ø 0.936" (24mm)
Extended w/Full Shroud	0.741" (19mm) 0.761" (19.5mm)	ø 0.936" (24mm) ø 0.936" (24mm)
ø 1.56" (40mm) Mushroom Pushlock Turn Reset, Push-Pull	*0.975" (25mm) **0.975" (25mm)	ø 1.56" (40mm) ø 1.56" (40mm)

*Dimension when operator is in reset position.
**Dimension when operator is in pull position.

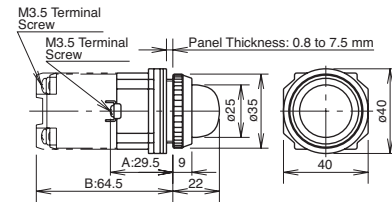
Pushbuttons	Dimension A	Dimension B
Flush	0.351" (9mm)	ø 0.975" (25mm)
Extended	0.566" (14.5mm)	ø 0.975" (25mm)
Extended w/Full Shroud	0.663" (17mm)	ø 1.11" (28.5mm)
Mushroom		
Mushroom w/Full Shroud	0.858" (22mm)	ø 1.56" (40mm)
Jumbo Mushroom	0.936" (24mm)	ø 1.87" (48mm)
ø 1.56" (40mm)	1.13" (29mm)	ø 2.54" (65mm)
Mushroom, Pushlock Turn Reset and Push-Pull		
ø 1.56" (40mm)	*0.975" (25mm) **0.975" (25mm)	ø 1.56" (40mm) ø 1.56" (40mm)

*Dimension when operator is in reset position.
**Dimension when operator is in pull position.

Full Voltage

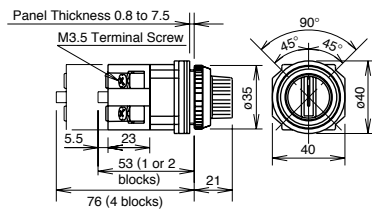


Pilot Lights

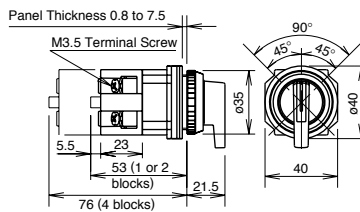


Selector Switches

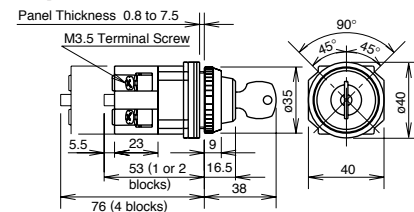
Knob



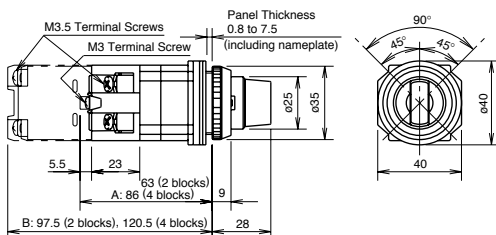
Lever



Key



Illuminated Knob



Switches & Pilot Lights

Display Lights

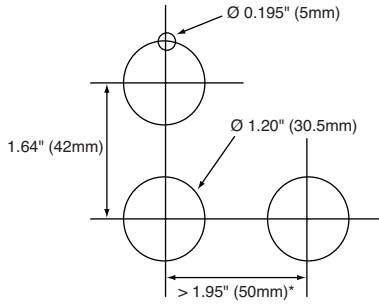
Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

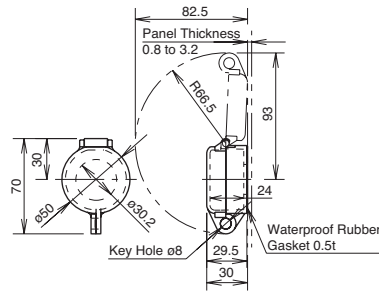
Selector Switches Panel Cut-Out



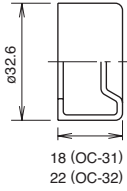
1. *Jumbo Mushroom < 2.61" (66mm)
2. Minimum mounting centers are applicable to switches with one stack of contact blocks. When mounting two stacks of contact blocks, minimum centers should allow for access to wiring.
3. The ø 0.195" (ø 5mm) recess is necessary when either the nameplate or anti-rotation ring is used.

Illuminated Selector Switches

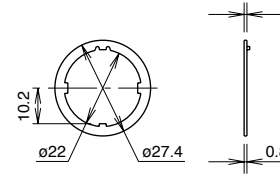
**OL-KL1
Lock-Out Adaptor**



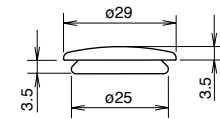
**OC-31
Pushbutton Clear Boot**



**OGL-31
Anti-Rotation Ring**

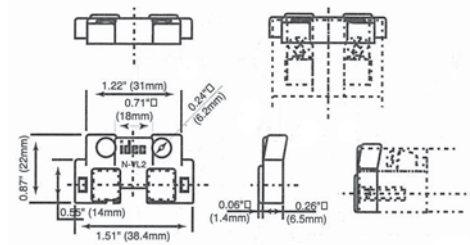


**OB-31
Mounting Hole Rubber Plug**

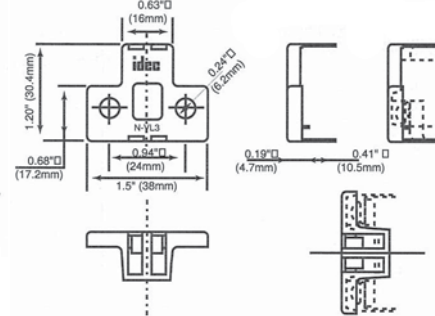


Finger-Safe Cover

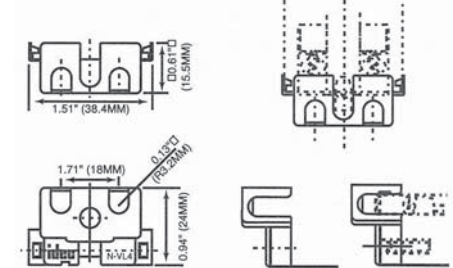
N-VL2



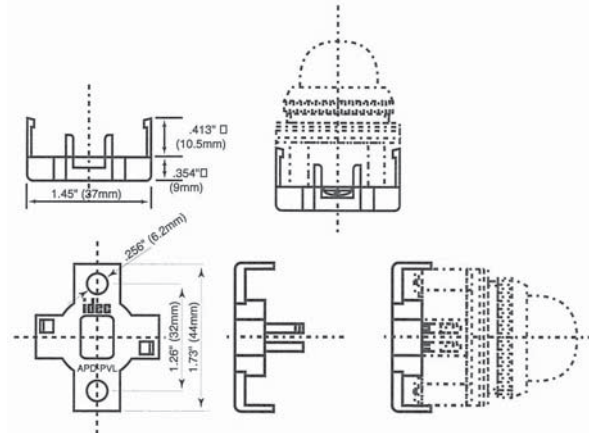
N-VL3



N-VL4



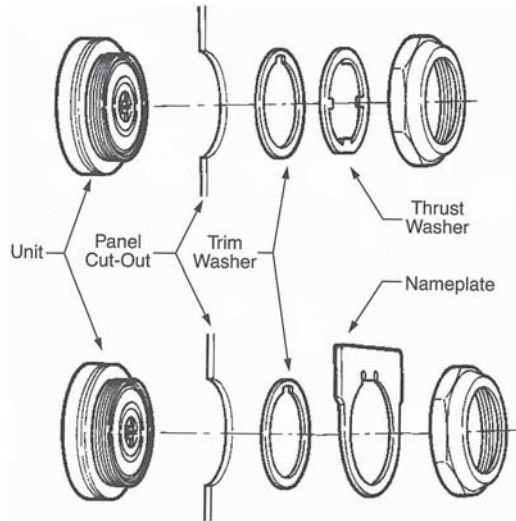
APD-PVL



Operating Instructions

Adjustment for Panel Thickness

Each unit is shipped with several waterproof gaskets which are 0.06" (1.5mm) and 0.12" (3mm) thick. Combine the gaskets for a dimension approximately equal to panel thickness and install between the bezel and the body of the unit.

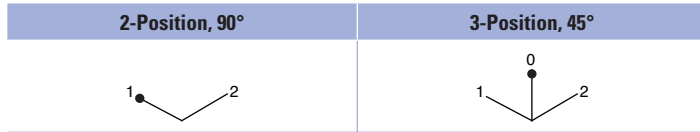


A trim washer must be used with a thrust washer or a nameplate to prevent the control unit from rotating in the mounting hole. When using anti-rotation rings (trim washer with thrust washer or nameplate), install as shown below.

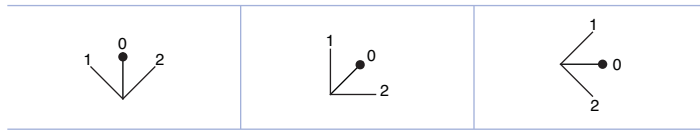
Selector Switches

The operator shaft of each unit has a recess to identify in which direction to install the handle. Align the handle with the recess. Press color insert (TW-HC1) into the Standard Operating Positions.

Standard Operation Positions

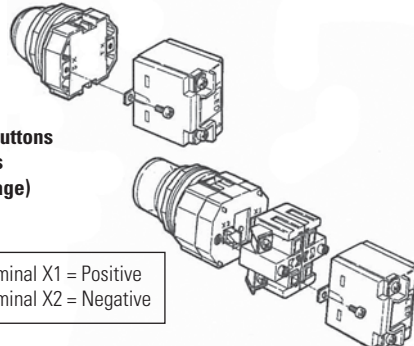


Non-Illuminated 3-Position Operators



Installation of TWTD Series Units

TWTD Pilot Lights



TWTD Illuminated Pushbuttons
TWTD Selector Switches
(Transformer or Full Voltage)

Terminal X1 = Positive
Terminal X2 = Negative

Installation of LED Illuminated Units

Transformer units are recommended for use in areas subjected to inductive noise. When using full voltage types, install a protection diode as shown below. Use diode with AC power supply to protect against reverse polarity. Use with DC power supply to protect against surges and noise.

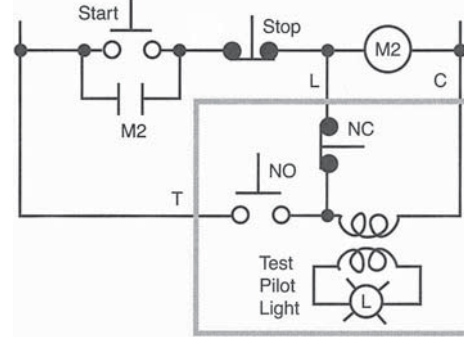


Make sure that LED illuminated units are installed with correct polarity, as indicated at the terminals.

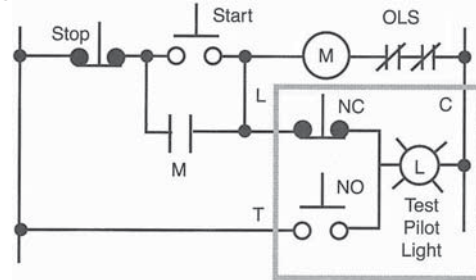
Application Example For Push-To-Test Pilot Light

A typical application of illuminated pushbuttons is a push-to-test pilot light which can be used to check the lamp/LED circuit.

Transformer/AC-Adapter Circuit



Full Voltage Circuit



CS Series – Heavy Duty Cam Switches

Key features of the CS Series include:

- Wide variety of heavy-duty oiltight cam switches
- Operators available up to 12 positions
- Switches made with a double circuit contact block
- Contact blocks rated 600V, 10A
- Ideal for ammeter/voltmeter applications
- Built to order — not available in subcomponents
- UL listed and CSA certified
- NEMA Type 4, 13



UL Listed
File No. E68961



CSA Certified
File No. LR48366

Contact Ratings

Rated Thermal Current		10A			
AC	Break Current	120V/5A	240V/3A	480V/2A	600V/1A
	Resistive	24V/8A	110V/8A	220V/1A	440V/0.45A
DC	Break Current	24V/5A	110V/1.2A	220V/0.45A	440V/0.20A
	Inductive	Make Current (A)	Rated amperage x 1.1		
Electrical Life		500,000 operations minimum (at full rated load)			
Mechanical Life		5,000,000 (at no load)			

CS Series

Series	Appearance	Operator		Maximum Contacts To Be Mounted	Handle Styles
		Cam Angle	Position		
ACSNO		30°	Up to 12	1 to 10 decks; Up to 20 contacts	YB, SB, PB, FB
		45°	Up to 8		
		60°	Up to 6		
		90°	Up to 4		
ACSNK		30°	Up to 12	1 to 10 decks; Up to 20 contacts	HB or standard key
		45°	Up to 8		
		60°	Up to 6		
		90°	Up to 4		
UCSQO		30°	Up to 12	1 to 10 decks; Up to 20 contacts	YB, SB, PB, FB
		45°	Up to 8		
		60°	Up to 6		
		90°	Up to 4		
UCSQM		45° Spring return	Only 3	1 to 3 decks; Up to 6 contacts	YB, SB, PB, FB



1. Do not use spring return (SR) for more than six contacts.
2. Two identical keys come with ACSNK unit. Specify "H" for handle key option.
3. For handle styles, see page 645.

Switches & Pilot Lights

Display Lights

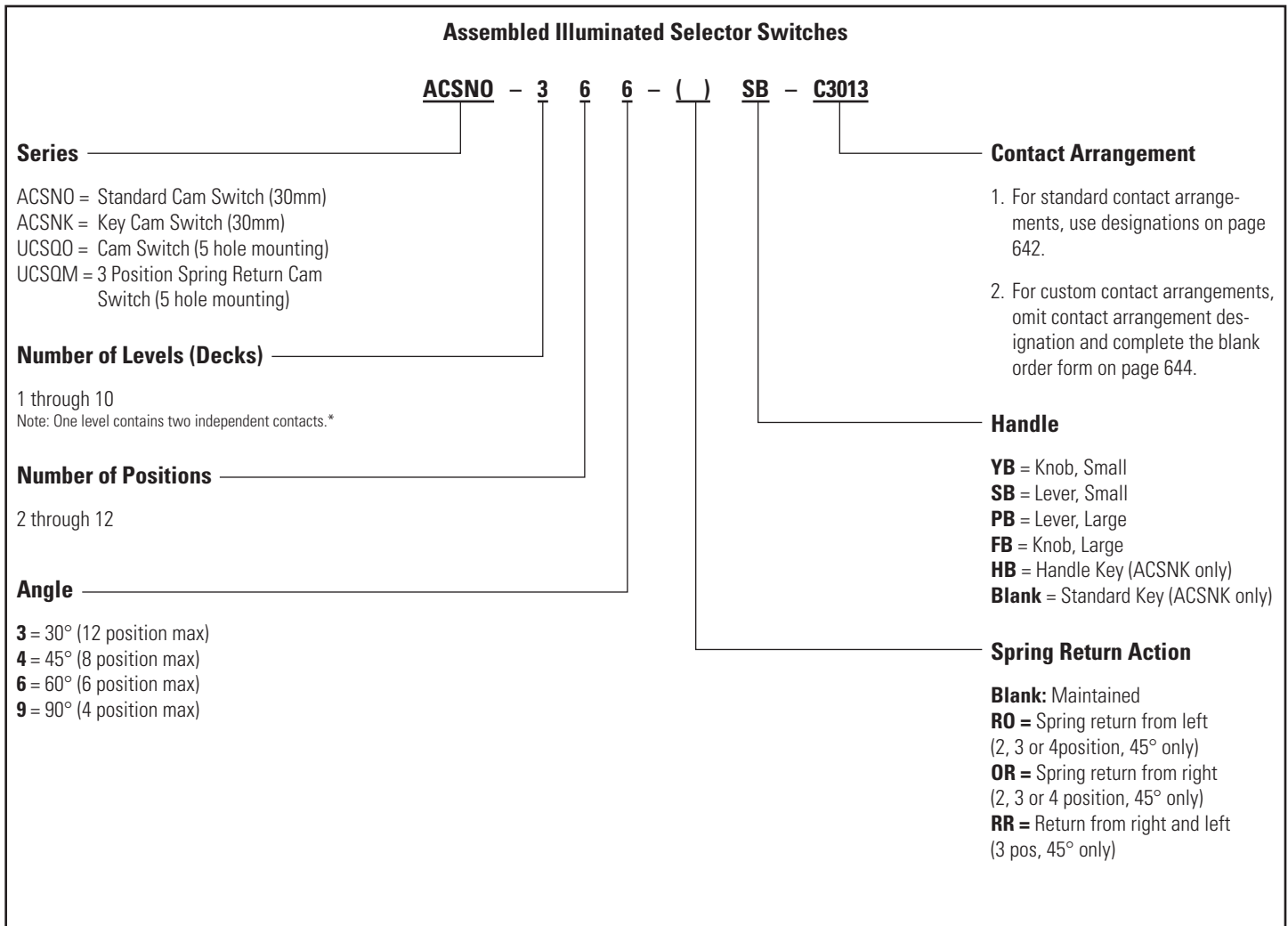
Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Illuminated Selector Switches (Assembled)



1. *Contact blocks may contain two independent contacts, (a four position switch with four independent contacts only requires two contact blocks).
 2. *Caution: switches with 180° or more of rotation may require separate blocks for each contact due to cam overlapping.
 3. Key retainable in every 45° position (45, 90, 180, 225, 270, 315, 360).

Switches & Pilot Lights

Display Lights

Relays & Sockets

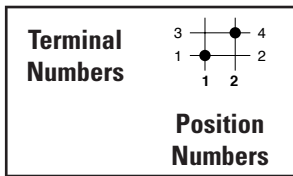
Timers

Terminal Blocks

Circuit Breakers

Contact Arrangements

Standard Arrangements



C-1001



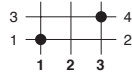
C-1002



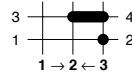
C-1014



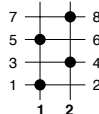
C-1005



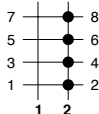
C-1008



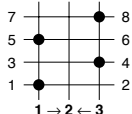
C-2001



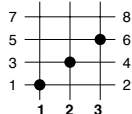
C-2002



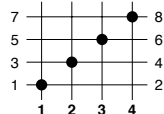
C-2006



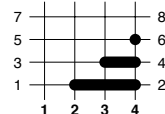
C-2004



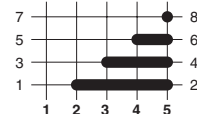
C-2008



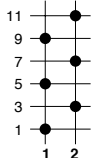
C-2009



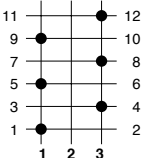
C-2027



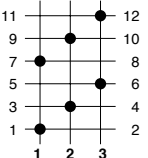
C-3001



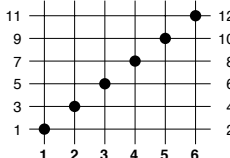
C-3002



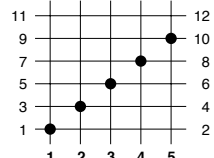
C-3005



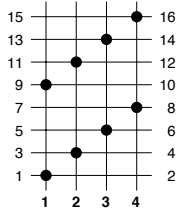
C-3013



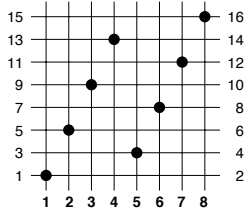
C-3016



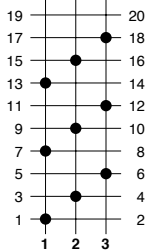
C-4001



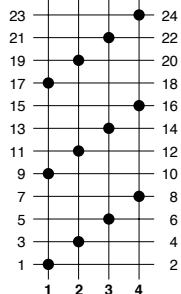
C-4002



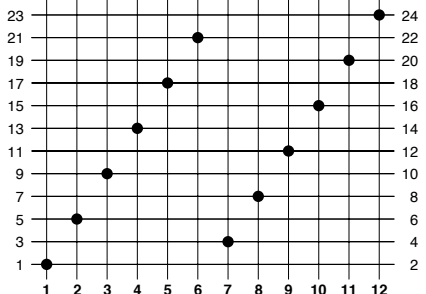
C-5001



C-6001



C-6002



Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

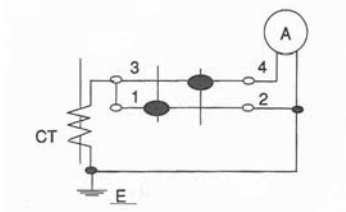
Terminal Blocks

Circuit Breakers

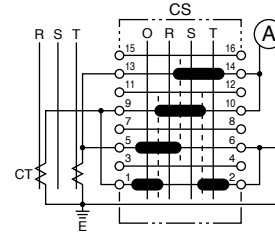
Contact Arrangements continued

Ammeter Switching

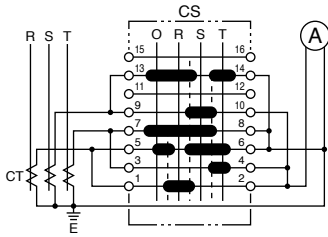
C-1012



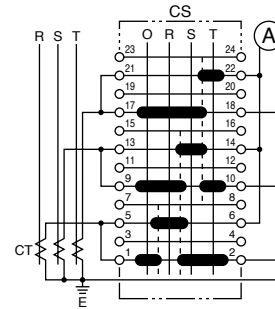
C-4007



C-4003

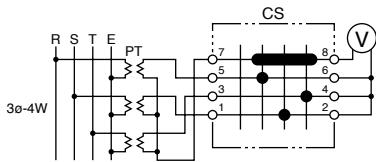


C-6003

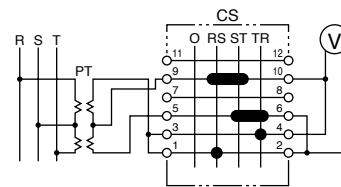


Voltmeter Switching

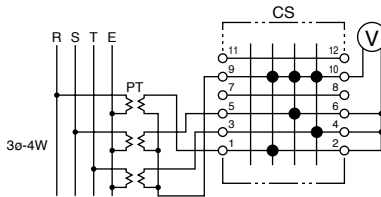
C-2022



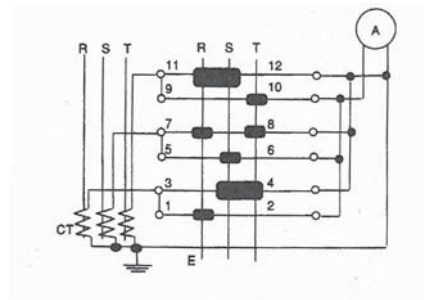
C-3008



C-3009



C-3007



Switches & Pilot Lights

Display Lights

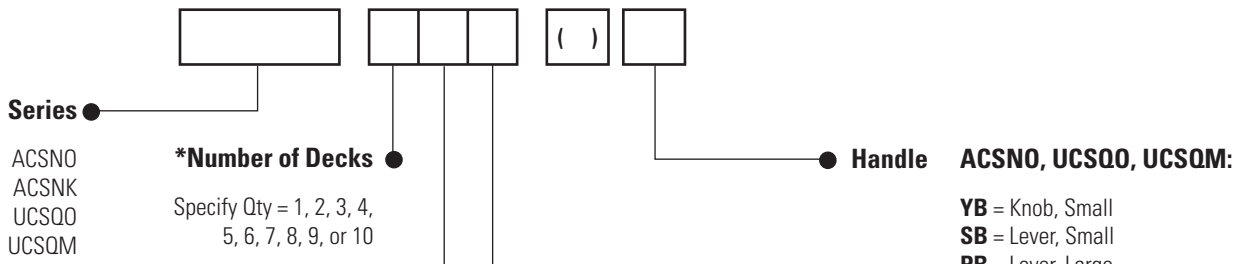
Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Order Form (Custom Contact Arrangement)



*Note: One Deck can drive two independent contacts.

Number of Positions ●

Unit	Angle	Positions
ACSNO	30° only	9, 10, 11, 12
ACSNK*	30° or 45° only	7 or 8
UCSQO	30°, 45° or 60°	5 or 6
	30°, 45°, 60°, 90°	2, 3, or 4
UCSQM	45° only	3 only

Spring Return

Blank = Maintained
RO = Spring return from left (3 or 4 position, 45°)
OR = Spring return from right (3 or 4 position, 45°)
RR = Return from right and left (3 position, 45°)

ACSNK:
HB = Handle Key (option)
Blank = Standard Key

For handle styles, see page 645.

Angle

3 = 30°
4 = 45°
6 = 60°
9 = 90°

UCSQM is available in spring-return version only.

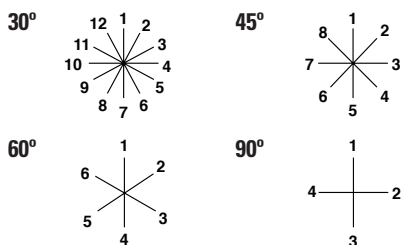
* ACSNK keys only remove at 45°.

Contact Arrangement Table

Cams	Terminal Numbers	Position											
		1	2	3	4	5	6	7	8	9	10	11	12
Deck 1	1 and 2												
	3 and 4												
Deck 2	5 and 6												
	7 and 8												
Deck 3	9 and 10												
	11 and 12												
Deck 4	13 and 14												
	15 and 16												
Deck 5	17 and 18												
	19 and 20												
Deck 6	21 and 22												
	23 and 24												
Deck 7	25 and 26												
	27 and 28												
Deck 8	29 and 30												
	31 and 32												
Deck 9	33 and 34												
	35 and 36												
Deck 10	37 and 38												
	39 and 40												

To specify non-standard arrangements (designation not on preceding pages), fill in this table using the following symbols.
X = Closed contact (break before make) **O** = Open contact **X-X** = Overlapping contact (remain on when switch is moved between two positions)

Specifying Nameplate (Optional)



Specifying Legends

Position

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

If no engraving information is provided, a blank nameplate will be supplied.

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

Switches & Pilot Lights
Display Lights
Relays & Sockets
Timers
Terminal Blocks
Circuit Breakers

Accessories — CS Series

Replacement Handles

Part Number	CSH-YB	CSH-SB	CSH-PB	CSH-FB	CSH-H2B
Dimensions	0.79"D x 1.61"H	0.79"D x 1.97"H	1.58"D x 1.97"H	1.58"D x Ø 1.97"	0.95"D x 2.28"H
Applicable Models	ACSNO, UCSQO, UCSQM				ACSNK

Replacement Nameplates

Size & Shape □ 2.52" (64mm) Black Aluminum			
	Part Number	CQ	CQM
Applicable Models	UCSQO	UCSQM	ACSNO, ACSNK

- 1. Extra cost for engraving, 3/16" min. letter height, Legends maximum ten characters.
- 2. Blank nameplates are supplied with all cam switches (they need not be ordered separately).

Wiring Clips

Part Number	Contact Block Jumpers
CJ-1 	Between decks
CJ-2 	Same deck

Replacement Keys

Part Number	
K301 	Pair of keys (#301)

Switches & Pilot Lights

Display Lights

Relays & Sockets

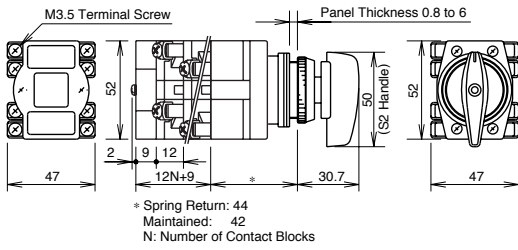
Timers

Terminal Blocks

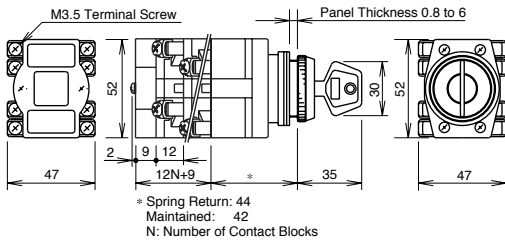
Circuit Breakers

Dimensions/Terminal Arrangements/Mounting Holes

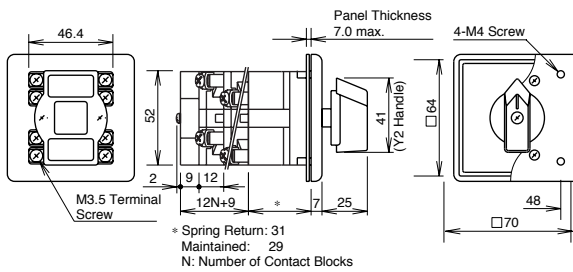
ACSNO



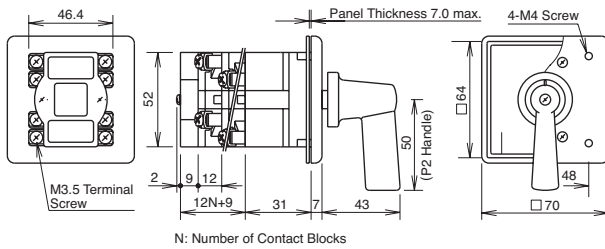
ACSNK



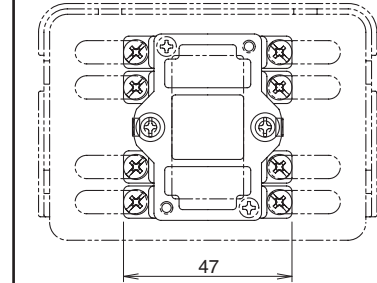
UCSQ0



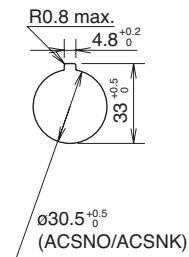
UCSQM



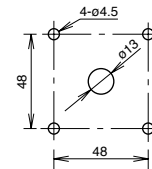
Terminal Arrangement



Mounting Holes



**UCSQ0
UCSQM**



ARN Series – Mono-Lever Switches

**Mono-Lever Switches Ø 1-13/64" (30mm)
Contact Blocks Rated for 600V, 10A**

Key features of the ARN Series include:

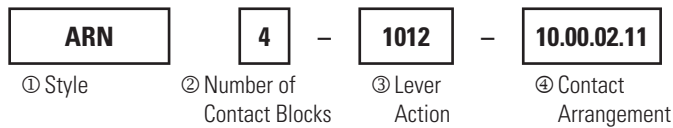
- Available in 2-, 3-, and 4-positions.
- Maintained and spring-return modes available.
- Models available with interlock mechanism to prevent inadvertent actuation.



Specifications

Operating Temperature	-25° to 50°C (without freezing)		
Insulation Resistance	100MΩ		
Contact Rating	Rated Voltage: Current	110VDC: 3A 24V AC/DC: 10A 120VAC: 10A 240VAC: 6A 480VAC: 2A 600VAC: 1A	
		Insulation Voltage	600V AC/DC
		Rated Thermal Current	10A
		Electrical Life	Over 500,000 operations

Part Numbering Guide (Assembled)



	Description	Code	Remarks
① Style	Standard Lever	ARN	Interlocking lever prevents inadvertent operation.
	Short Lever	ARNS	
	Interlocking Lever	ARNL	
② No. of Contact Blocks	—	1	Each contact block contains two independent contacts.
		2	
		3	
		4	
③ Lever Action	Blocked	0	Specify in this order: Up.Right.Down.Left
	Maintained	1	
	Spring Return	2	
④ Contact Arrangement	No contacts	00	Specify the number of contacts to be activated in all active (non-blocked) positions: Up.Right.Down.Left For blocked positions use code: 00
	1 NO contact	10	
	1 NC contact	01	
	1 NO and 1 NC contact	11	
	2 NO contacts	20	

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers




Terminal Blocks

Circuit Breakers


Mono-Lever Switches (Sub-Assembled)



Standard Mono-Lever Operators

Operator Type	Lever Operation Mode	Part Number
 Standard Lever	2-Position manual return	ARNO-1010-B
	3-Position manual return	ARNO-1110-B
	4-Position manual return	ARNO-1111-B
	2-Position spring return	ARNO-2020-B
	3-Position spring return	ARNO-2220-B
	4-Position spring return	ARNO-2222-B
 Short Lever	2-Position manual return	ARNSO-1010-B
	3-Position manual return	ARNSO-1110-B
	4-Position manual return	ARNSO-1111-B
	2-Position spring return	ARNSO-2020-B
	3-Position spring return	ARNSO-2220-B
	4-Position spring return	ARNSO-2222-B
 Interlocking Lever	2-Position manual return	ARNLO-1010-B
	3-Position manual return	ARNLO-1110-B
	4-Position manual return	ARNLO-1111-B
	2-Position spring return	ARNLO-2020-B
	3-Position spring return	ARNLO-2220-B
	4-Position spring return	ARNLO-2222-B

Contact Blocks

Item	Contact Arrangement	Part Number
	2NO contacts 1NO & 1NC contact 2NC contacts 1NO early make contact	BR-1E BR-2E BR-3E BR-1EM

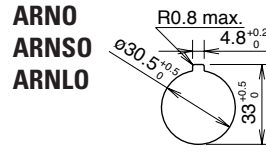
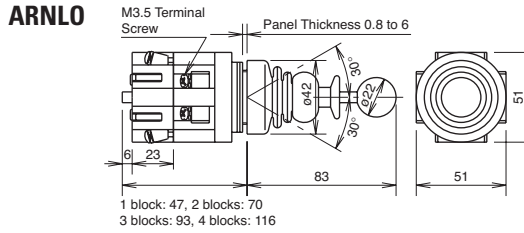
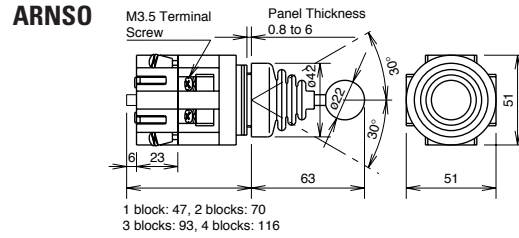
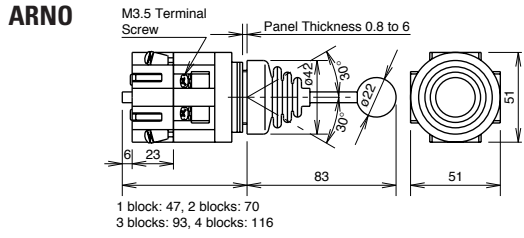


To calculate the number of contact blocks required, add the number of NO and NC contacts on each pair of adjoining positions (up + right, right + down, down + left, and left + up). The largest of the four sums is the number of contact blocks required. Up to four contact blocks can be mounted.

Replacement Parts

Item	Part Number
 Bellows	ARNO, ARNSO (standard & short lever) ARN-BL
	ARNLO (Interlocking) ARNL-BL (comes in 2 pieces)
 Knob (ball)	All Models Knob (ball) ARNB-B

Dimensions — ARN Series



Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

LW Silhouette Series

Bezel projects only 2mm from front of panel!

Key features:

- PC board mount, solder or screw terminals available.
- Round metallic or plastic bezels are available.
- Collective mounting saves space.
- Pushbuttons, pilot lights, illuminated pushbuttons, selector switches, key selector switches, and illuminated selector switches.
- Square pushbuttons also available with switchguards.
- Key selector switches with high-security lock mechanism.
- Separate contacts with a locking lever enable easy installation even when mounted collectively.
- Gold (gold-clad silver) or silver contacts.
- Degree of protection: IP65 (IEC 60529)
- UL recognized and CSA certified. EN compliant



Specifications

General Specifications	Operating Temperature	-25 to +60°C (no freezing), Illuminated units: -25 to +50°C	
	Storage Temperature	-40 to +80°	
	Operating Humidity	45 to 85% RH (no condensation)	
	Contact Resistance	50 mΩ maximum (initial value)	
	Insulation Resistance	100 MΩ minimum (500V DC megger)	
	Dielectric Strength	Switch Unit	Between live part and ground: 2,500V AC, 1 minute Between terminals of different poles: 2,500V AC, 1 minute Between terminals of the same poles: 1,000V AC, 1 minute
		Illumination Unit	Between live part and ground: 2,500V AC, 1 minute
	Vibration Resistance	Operating extremes: 5 to 55 Hz, amplitude 0.5 mm	
	Shock Resistance	Damage limits: 1,000 m/s ² (100G)	
		Operating extremes: 100 m/s ² (10G)	
	Mechanical Life (minimum operations)	Momentary: 1,000,000	
		Maintained: 500,000	
		Selector switches: 250,000	
		Key selector switches: 100,000	
		Illuminated selector switches: 250,000	
Electrical Life (minimum operations)	Momentary: 100,000 ¹		
	Maintained: 100,000 ²		
	Selector switches: 100,000 ²		
	Key selector switches: 100,000 ²		
Degree of Protection	IP65 (IEC 60529)		
Terminal Style	Solder/tab terminal #110		
	PC board terminal		
	Screw terminal		

1. Switching frequency 1,800 operations/hour.
2. Switching frequency 900 operations/hour.

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Contact Ratings	Gold Contacts	Maximum Voltage		250V AC/DC			
		Thermal Current		3A			
		Operating Voltage		125V AC	30V DC		
		Operating Current (resistive load)		0.1A	0.1A		
		Contact Material		Gold-clad silver			
	Silver Contacts	Operating Voltage		30V	125V	250V	
		Operating Current	AC 50/60Hz	Resistive Load	–	3A	2A
				Inductive Load	–	2A	1.5A
			DC	Resistive Load	2A	0.4A	–
				Inductive Load	1A	0.2A	–
Thermal Current		5A					
Contact Material		Silver					



1. AC inductive load: PF = 0.6 to 0.7
 2. DC inductive load: L/R = 7 ms max.
 3. Minimum applicable load (reference value): 5V AC/DC, 1mA


LED Lamp Ratings (LSTD Type)

Model No.	LSTD-6②	LSTD-1②	LSTD-2②	LSTD-H2②	LSTD-M4②
Lamp Base	BA9S/13				
Rated Voltage	6V AC/DC	12V AC/DC	24V AC/DC	120V AC	240V AC
Voltage Range	6V AC/DC ±10%	12V AC/DC ±10%	24V AC/DC ±10%	120V AC ±5%	240V AC ±5%
Current Draw	AC	A, R, W, Y: 17mA G, S: 8mA	11mA	11mA	10mA
	DC	A, R, W, Y: 14mA G, S: 5.5mA	10mA	10mA	–
Color Code	A (amber), G (green), R (red), S (blue), W (white), Y (yellow)				
Lamp Base Color	Same as illumination color				
Voltage Marking	Die stamped on the base				
Life (reference value)	Approx. 50,000 hours (The luminance reduces to 50% the initial intensity when used on complete DC.)				
Internal Circuit	A, R, W		A, R, W		
	G, S		G, S		
			LED Chip Protection Diode Zener Diode		

In place of ②, specify the Lens/LED Color Code.

Part Numbers

Non-illuminated Round Pushbuttons with Metal Bezel

Shape	Operation	Contact Material	Contact	Part Numbers		
				Solder/Tab Terminal	PC Board Terminal	Screw Terminal
Round Flush 	Momentary	Gold	SPDT	LW6MB-M1C1LⓄ	LW6MB-M1C1VLⓄ	—
			DPDT	LW6MB-M1C2LⓄ	LW6MB-M1C2VLⓄ	LW6MB-M1C2MLⓄ
			3PDT	LW6MB-M1C3LⓄ	LW6MB-M1C3VLⓄ	—
		Silver	SPDT	LW6MB-M1C5LⓄ	—	—
			DPDT	LW6MB-M1C6LⓄ	—	LW6MB-M1C6MLⓄ
			3PDT	LW6MB-M1C7LⓄ	—	—
	Maintained	Gold	SPDT	LW6MB-A1C1LⓄ	LW6MB-A1C1VLⓄ	—
			DPDT	LW6MB-A1C2LⓄ	LW6MB-A1C2VLⓄ	LW6MB-A1C2MLⓄ
			3PDT	LW6MB-A1C3LⓄ	LW6MB-A1C3VLⓄ	—
		Silver	SPDT	LW6MB-A1C5LⓄ	—	—
			DPDT	LW6MB-A1C6LⓄ	—	LW6MB-A1C6MLⓄ
			3PDT	LW6MB-A1C7LⓄ	—	—
Round Extended 	Momentary	Gold	SPDT	LW6MB-M2C1LⓄ	LW6MB-M2C1VLⓄ	—
			DPDT	LW6MB-M2C2LⓄ	LW6MB-M2C2VLⓄ	LW6MB-M2C2MLⓄ
			3PDT	LW6MB-M2C3LⓄ	LW6MB-M2C3VLⓄ	—
		Silver	SPDT	LW6MB-M2C5LⓄ	—	—
			DPDT	LW6MB-M2C6LⓄ	—	LW6MB-M2C6MLⓄ
			3PDT	LW6MB-M2C7LⓄ	—	—
	Maintained	Gold	SPDT	LW6MB-A2C1LⓄ	LW6MB-A2C1VLⓄ	—
			DPDT	LW6MB-A2C2LⓄ	LW6MB-A2C2VLⓄ	LW6MB-A2C2MLⓄ
			3PDT	LW6MB-A2C3LⓄ	LW6MB-A2C3VLⓄ	—
		Silver	SPDT	LW6MB-A2C5LⓄ	—	—
			DPDT	LW6MB-A2C6LⓄ	—	LW6MB-A2C6MLⓄ
			3PDT	LW6MB-A2C7LⓄ	—	—

- 1. In place of Ⓞ insert button color from table
- 2. For replacement part numbers see page 666.

① Button Color Code

Color	Code
Amber	A
Black	B
Green	G
Red	R
Blue	S
White	W
Yellow	Y

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Non-illuminated Round / Square Pushbuttons with Black Plastic Bezel

Shape	Operation	Contact Material	Contact	Part Numbers		
				Solder/Tab Terminal	PC Board Terminal	Screw Terminal
Round Flush 	Momentary	Gold	SPDT	LW6B-M1C1LⓈ	LW6B-M1C1VLⓈ	–
			DPDT	LW6B-M1C2LⓈ	LW6B-M1C2VLⓈ	LW6B-M1C2MLⓈ
			3PDT	LW6B-M1C3LⓈ	LW6B-M1C3VLⓈ	–
		Silver	SPDT	LW6B-M1C5LⓈ	–	–
			DPDT	LW6B-M1C6LⓈ	–	LW6B-M1C6MLⓈ
			3PDT	LW6B-M1C7LⓈ	–	–
	Maintained	Gold	SPDT	LW6B-A1C1LⓈ	LW6B-A1C1VLⓈ	–
			DPDT	LW6B-A1C2LⓈ	LW6B-A1C2VLⓈ	LW6B-A1C2MLⓈ
			3PDT	LW6B-A1C3LⓈ	LW6B-A1C3VLⓈ	–
		Silver	SPDT	LW6B-A1C5LⓈ	–	–
			DPDT	LW6B-A1C6LⓈ	–	LW6B-A1C6MLⓈ
			3PDT	LW6B-A1C7LⓈ	–	–
Round Extended 	Momentary	Gold	SPDT	LW6B-M2C1LⓈ	LW6B-M2C1VLⓈ	–
			DPDT	LW6B-M2C2LⓈ	LW6B-M2C2VLⓈ	LW6B-M2C2MLⓈ
			3PDT	LW6B-M2C3LⓈ	LW6B-M2C3VLⓈ	–
		Silver	SPDT	LW6B-M2C5LⓈ	–	–
			DPDT	LW6B-M2C6LⓈ	–	LW6B-M2C6MLⓈ
			3PDT	LW6B-M2C7LⓈ	–	–
	Maintained	Gold	SPDT	LW6B-A2C1LⓈ	LW6B-A2C1VLⓈ	–
			DPDT	LW6B-A2C2LⓈ	LW6B-A2C2VLⓈ	LW6B-A2C2MLⓈ
			3PDT	LW6B-A2C3LⓈ	LW6B-A2C3VLⓈ	–
		Silver	SPDT	LW6B-A2C5LⓈ	–	–
			DPDT	LW6B-A2C6LⓈ	–	LW6B-A2C6MLⓈ
			3PDT	LW6B-A2C7LⓈ	–	–
Square Flush 	Momentary	Gold	SPDT	LW7B-M1C1LⓈ	LW7B-M1C1VLⓈ	–
			DPDT	LW7B-M1C2LⓈ	LW7B-M1C2VLⓈ	LW7B-M1C2MLⓈ
			3PDT	LW7B-M1C3LⓈ	LW7B-M1C3VLⓈ	–
		Silver	SPDT	LW7B-M1C5LⓈ	–	–
			DPDT	LW7B-M1C6LⓈ	–	LW7B-M1C6MLⓈ
			3PDT	LW7B-M1C7LⓈ	–	–
	Maintained	Gold	SPDT	LW7B-A1C1LⓈ	LW7B-A1C1VLⓈ	–
			DPDT	LW7B-A1C2LⓈ	LW7B-A1C2VLⓈ	LW7B-A1C2MLⓈ
			3PDT	LW7B-A1C3LⓈ	LW7B-A1C3VLⓈ	–
		Silver	SPDT	LW7B-A1C5LⓈ	–	–
			DPDT	LW7B-A1C6LⓈ	–	LW7B-A1C6MLⓈ
			3PDT	LW7B-A1C7LⓈ	–	–
Square Flush with Guard 	Momentary	Gold	SPDT	LW7GB-M1C1LⓈ	LW7GB-M1C1VLⓈ	–
			DPDT	LW7GB-M1C2LⓈ	LW7GB-M1C2VLⓈ	LW7GB-M1C2MLⓈ
			3PDT	LW7GB-M1C3LⓈ	LW7GB-M1C3VLⓈ	–
		Silver	SPDT	LW7GB-M1C5LⓈ	–	–
			DPDT	LW7GB-M1C6LⓈ	–	LW7GB-M1C6MLⓈ
			3PDT	LW7GB-M1C7LⓈ	–	–
	Maintained	Gold	SPDT	LW7GB-A1C1LⓈ	LW7GB-A1C1VLⓈ	–
			DPDT	LW7GB-A1C2LⓈ	LW7GB-A1C2VLⓈ	LW7GB-A1C2MLⓈ
			3PDT	LW7GB-A1C3LⓈ	LW7GB-A1C3VLⓈ	–
		Silver	SPDT	LW7GB-A1C5LⓈ	–	–
			DPDT	LW7GB-A1C6LⓈ	–	LW7GB-A1C6MLⓈ
			3PDT	LW7GB-A1C7LⓈ	–	–

Ⓢ Button Color Code

Color	Code
Amber	A
Black	B
Green	G
Red	R
Blue	S
White	W
Yellow	Y



1. In place of Ⓢ insert button color from table
2. For replacement part numbers see page 666.

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Switches & Pilot Lights

Display Lights



Relays & Sockets

Timers





Terminal Blocks

Circuit Breakers

Round / Square Pilot Lights with Metal Bezel

Shape	Lamp	Part Numbers		
		Solder/Tab Terminal (Unibody Type)	PC Board Terminal (Separate Type)	Screw Terminal (Unibody Type)
Round Flush 	LED	LW6MP-1③②	LW6MP-1C0③V②	LW6MP-1③M②
Round Extended 	LED	LW6MP-2③②	LW6MP-2C0③V②	LW6MP-2③M②

Round / Square Pilot Lights with Black Plastic Bezel

Shape	Lamp	Part Numbers		
		Solder/Tab Terminal (Unibody Type)	PC Board Terminal (Separate Type)	Screw Terminal (Unibody Type)
Round Flush 	LED	LW6P-1③②	LW6P-1C0③V②	LW6P-1③M②
Round Extended 	LED	LW6P-2③②	LW6P-2C0③V②	LW6P-2③M②
Square Flush 	LED	LW7P-1③②	LW7P-1C0③V②	LW7P-1③M②
Square Extended 	LED	LW7P-2③②	LW7P-2C0③V②	LW7P-2③M②



Yellow pilot light comes with white LED.

② Color Code

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W
Yellow	Y

③ Voltage Code

Voltage	Code
6V AC/DC	2
12V AC/DC	3
12V AC/DC	4
120V AC	5
240V AC	6



- Every pilot light contains an LED lamp (LSTD) of the specified color and voltage.
- For replacement part numbers see page 666.

Illuminated Round Pushbuttons with Metal Bezel

Shape	Lamp	Operation	Contact Material	Contact	Part Numbers		
					Solder/Tab Terminal	PC Board Terminal	Screw Terminal
 Round Flush	LED	Momentary	Gold	SPDT	LW6ML-M1C1③②	LW6ML-M1C1③V②	–
				DPDT	LW6ML-M1C2③②	LW6ML-M1C2③V②	LW6ML-M1C2③M②
				3PDT	LW6ML-M1C3③②	LW6ML-M1C3③V②	–
			Silver	SPDT	LW6ML-M1C5③②	–	–
				DPDT	LW6ML-M1C6③②	–	LW6ML-M1C6③M②
				3PDT	LW6ML-M1C7③②	–	–
		Maintained	Gold	SPDT	LW6ML-A1C1③②	LW6ML-A1C1③V②	–
				DPDT	LW6ML-A1C2③②	LW6ML-A1C2③V②	LW6ML-A1C2③M②
				3PDT	LW6ML-A1C3③②	LW6ML-A1C3③V②	–
			Silver	SPDT	LW6ML-A1C5③②	–	–
				DPDT	LW6ML-A1C6③②	–	LW6ML-A1C6③M②
				3PDT	LW6ML-A1C7③②	–	–
 Round Extended	LED	Momentary	Gold	SPDT	LW6ML-M2C1③②	LW6ML-M2C1③V②	–
				DPDT	LW6ML-M2C2③②	LW6ML-M2C2③V②	LW6ML-M2C2③M②
				3PDT	LW6ML-M2C3③②	LW6ML-M2C3③V②	–
			Silver	SPDT	LW6ML-M2C5③②	–	–
				DPDT	LW6ML-M2C6③②	–	LW6ML-M2C6③M②
				3PDT	LW6ML-M2C7③②	–	–
		Maintained	Gold	SPDT	LW6ML-A2C1③②	LW6ML-A2C1③V②	–
				DPDT	LW6ML-A2C2③②	LW6ML-A2C2③V②	LW6ML-A2C2③M②
				3PDT	LW6ML-A2C3③②	LW6ML-A2C3③V②	–
			Silver	SPDT	LW6ML-A2C5③②	–	–
				DPDT	LW6ML-A2C6③②	–	LW6ML-A2C6③M②
				3PDT	LW6ML-A2C7③②	–	–

② Color Code

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W
Yellow	Y

③ Voltage Code

Voltage	Code
6V AC/DC	2
12V AC/DC	3
24V AC/DC	4
120V AC	5
240V AC	6



- In place of ② insert Lens/LED color code from table.
- In place of ③ insert Voltage code from table.
- Every illuminated pushbutton contains an LED lamp (LSTD) of the specified color and voltage.
- For replacement part numbers see page 666.

Illuminated Round / Square Pushbuttons with Black Plastic Bezel

Shape	Lamp	Operation	Contact Material	Contact	Part Numbers		
					Solder/Tab Terminal	PC Board Terminal	Screw Terminal
 Round Flush	LED	Momentary	Gold	SPDT	LW6L-M1C1③②	LW6L-M1C1③V②	–
				DPDT	LW6L-M1C2③②	LW6L-M1C2③V②	LW6L-M1C2③M②
				3PDT	LW6L-M1C3③②	LW6L-M1C3③V②	–
			Silver	SPDT	LW6L-M1C5③②	–	–
				DPDT	LW6L-M1C6③②	–	LW6L-M1C6③M②
				3PDT	LW6L-M1C7③②	–	–
		Maintained	Gold	SPDT	LW6L-A1C1③②	LW6L-A1C1③V②	–
				DPDT	LW6L-A1C2③②	LW6L-A1C2③V②	LW6L-A1C2③M②
				3PDT	LW6L-A1C3③②	LW6L-A1C3③V②	–
			Silver	SPDT	LW6L-A1C5③②	–	–
				DPDT	LW6L-A1C6③②	–	LW6L-A1C6③M②
				3PDT	LW6L-A1C7③②	–	–



Yellow pushbutton comes with white LED.

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Shape	Lamp	Operation	Contact Material	Contact	Part Numbers		
					Solder/Tab Terminal	PC Board Terminal	Screw Terminal
Round Extended 	LED	Momentary	Gold	SPDT	LW6L-M2C1③②	LW6L-M2C1③V②	—
				DPDT	LW6L-M2C2③②	LW6L-M2C2③V②	LW6L-M2C2③M②
				3PDT	LW6L-M2C3③②	LW6L-M2C3③V②	—
			Silver	SPDT	LW6L-M2C5③②	—	—
				DPDT	LW6L-M2C6③②	—	LW6L-M2C6③M②
				3PDT	LW6L-M2C7③②	—	—
		Maintained	Gold	SPDT	LW6L-A2C1③②	LW6L-A2C1③V②	—
				DPDT	LW6L-A2C2③②	LW6L-A2C2③V②	LW6L-A2C2③M②
				3PDT	LW6L-A2C3③②	LW6L-A2C3③V②	—
			Silver	SPDT	LW6L-A2C5③②	—	—
				DPDT	LW6L-A2C6③②	—	LW6L-A2C6③M②
				3PDT	LW6L-A2C7③②	—	—
Square Flush 	LED	Momentary	Gold	SPDT	LW7L-M1C1③②	LW7L-M1C1③V②	—
				DPDT	LW7L-M1C2③②	LW7L-M1C2③V②	LW7L-M1C2③M②
				3PDT	LW7L-M1C3③②	LW7L-M1C3③V②	—
			Silver	SPDT	LW7L-M1C5③②	—	—
				DPDT	LW7L-M1C6③②	—	LW7L-M1C6③M②
				3PDT	LW7L-M1C7③②	—	—
		Maintained	Gold	SPDT	LW7L-A1C1③②	LW7L-A1C1③V②	—
				DPDT	LW7L-A1C2③②	LW7L-A1C2③V②	LW7L-A1C2③M②
				3PDT	LW7L-A1C3③②	LW7L-A1C3③V②	—
			Silver	SPDT	LW7L-A1C5③②	—	—
				DPDT	LW7L-A1C6③②	—	LW7L-A1C6③M②
				3PDT	LW7L-A1C7③②	—	—
Square Flush with Switch Guard 	LED	Momentary	Gold	SPDT	LW7GL-M1C1③②	LW7GL-M1C1③V②	—
				DPDT	LW7GL-M1C2③②	LW7GL-M1C2③V②	LW7GL-M1C2③M②
				3PDT	LW7GL-M1C3③②	LW7GL-M1C3③V②	—
			Silver	SPDT	LW7GL-M1C5③②	—	—
				DPDT	LW7GL-M1C6③②	—	LW7GL-M1C6③M②
				3PDT	LW7GL-M1C7③②	—	—
		Maintained	Gold	SPDT	LW7GL-A1C1③②	LW7GL-A1C1③V②	—
				DPDT	LW7GL-A1C2③②	LW7GL-A1C2③V②	LW7GL-A1C2③M②
				3PDT	LW7GL-A1C3③②	LW7GL-A1C3③V②	—
			Silver	SPDT	LW7GL-A1C5③②	—	—
				DPDT	LW7GL-A1C6③②	—	LW7GL-A1C6③M②
				3PDT	LW7GL-A1C7③②	—	—

② Color Code

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W
Yellow	Y















③ Voltage Code

Voltage	Code
6V AC/DC	2
12V AC/DC	3
24V AC/DC	4
120V AC	5
240V AC	6



1. In place of ② insert Lens/LED color code from table.
2. In place of ③ insert Voltage code from table.
3. Every illuminated pushbutton contains an LED lamp (LSTD) of the specified color and voltage.
3. For replacement part numbers see page 666.
4. Yellow pushbutton comes with white LED.

Non-illuminated Round Selector Switches with Metal Bezel

Shape	Operatio	Position	Contact Material	Contact	Part Numbers		
					Solder/Tab Terminal	PC Board Terminal	Screw Terminal
 <p>Round (Knob Operator)</p>	90° 2-position Maintained		Gold	SPDT	LW6MS-2C1	LW6MS-2C1V	—
				DPDT	LW6MS-2C2	LW6MS-2C2V	LW6MS-2C2M
				3PDT	LW6MS-2C3	LW6MS-2C3V	—
			Silver	SPDT	LW6MS-2C5	—	—
				DPDT	LW6MS-2C6	—	LW6MS-2C6M
				3PDT	LW6MS-2C7	—	—
	90° 2-position Spring Return from Right		Gold	SPDT	LW6MS-21C1	LW6MS-21C1V	—
				DPDT	LW6MS-21C2	LW6MS-21C2V	LW6MS-21C2M
				3PDT	LW6MS-21C3	LW6MS-21C3V	—
			Silver	SPDT	LW6MS-21C5	—	—
				DPDT	LW6MS-21C6	—	LW6MS-21C6M
				3PDT	LW6MS-21C7	—	—
	45° 3-position Maintained		Gold	DPDT	LW6MS-3C2	LW6MS-3C2V	LW6MS-3C2M
				3PDT	LW6MS-3C3	LW6MS-3C3V	—
				3PDT	LW6MS-3C7	—	—
			Silver	DPDT	LW6MS-3C6	—	LW6MS-3C6M
				3PDT	LW6MS-3C7	—	—
				3PDT	LW6MS-3C7	—	—
	45° 3-position Spring Return from Right		Gold	DPDT	LW6MS-31C2	LW6MS-31C2V	LW6MS-31C2M
				3PDT	LW6MS-31C3	LW6MS-31C3V	—
				3PDT	LW6MS-31C7	—	—
			Silver	DPDT	LW6MS-31C6	—	LW6MS-31C6M
				3PDT	LW6MS-31C7	—	—
				3PDT	LW6MS-31C7	—	—
45° 3-position Spring Return from Left		Gold	DPDT	LW6MS-32C2	LW6MS-32C2V	LW6MS-32C2M	
			3PDT	LW6MS-32C3	LW6MS-32C3V	—	
			3PDT	LW6MS-32C7	—	—	
		Silver	DPDT	LW6MS-32C6	—	LW6MS-32C6M	
			3PDT	LW6MS-32C7	—	—	
			3PDT	LW6MS-32C7	—	—	
45° 3-position Spring Return Two-way		Gold	DPDT	LW6MS-33C2	LW6MS-33C2V	LW6MS-33C2M	
			3PDT	LW6MS-33C3	LW6MS-33C3V	—	
			3PDT	LW6MS-33C7	—	—	
		Silver	DPDT	LW6MS-33C6	—	LW6MS-33C6M	
			3PDT	LW6MS-33C7	—	—	
			3PDT	LW6MS-33C7	—	—	
 <p>Round (Lever Operator)</p>	90° 2-position Maintained		Gold	SPDT	LW6MS-2LC1	LW6MS-2LC1V	—
				DPDT	LW6MS-2LC2	LW6MS-2LC2V	LW6MS-2LC2M
				3PDT	LW6MS-2LC3	LW6MS-2LC3V	—
			Silver	SPDT	LW6MS-2LC5	—	—
				DPDT	LW6MS-2LC6	—	LW6MS-2LC6M
				3PDT	LW6MS-2LC7	—	—
	90° 2-position Spring Return from Right		Gold	SPDT	LW6MS-21LC1	LW6MS-21LC1V	—
				DPDT	LW6MS-21LC2	LW6MS-21LC2V	LW6MS-21LC2M
				3PDT	LW6MS-21LC3	LW6MS-21LC3V	—
			Silver	SPDT	LW6MS-21LC5	—	—
				DPDT	LW6MS-21LC6	—	LW6MS-21LC6M
				3PDT	LW6MS-21LC7	—	—
	45° 3-position Maintained		Gold	DPDT	LW6MS-3LC2	LW6MS-3LC2V	LW6MS-3LC2M
				3PDT	LW6MS-3LC3	LW6MS-3LC3V	—
				3PDT	LW6MS-3LC7	—	—
			Silver	DPDT	LW6MS-3LC6	—	LW6MS-3LC6M
				3PDT	LW6MS-3LC7	—	—
				3PDT	LW6MS-3LC7	—	—
	45° 3-position Spring Return from Right		Gold	DPDT	LW6MS-31LC2	LW6MS-31LC2V	LW6MS-31LC2M
				3PDT	LW6MS-31LC3	LW6MS-31LC3V	—
				3PDT	LW6MS-31LC7	—	—
			Silver	DPDT	LW6MS-31LC6	—	LW6MS-31LC6M
				3PDT	LW6MS-31LC7	—	—
				3PDT	LW6MS-31LC7	—	—
45° 3-position Spring Return from Left		Gold	DPDT	LW6MS-32LC2	LW6MS-32LC2V	LW6MS-32LC2M	
			3PDT	LW6MS-32LC3	LW6MS-32LC3V	—	
			3PDT	LW6MS-32LC7	—	—	
		Silver	DPDT	LW6MS-32LC6	—	LW6MS-32LC6M	
			3PDT	LW6MS-32LC7	—	—	
			3PDT	LW6MS-32LC7	—	—	
45° 3-position Spring Return Two-way		Gold	DPDT	LW6MS-33LC2	LW6MS-33LC2V	LW6MS-33LC2M	
			3PDT	LW6MS-33LC3	LW6MS-33LC3V	—	
			3PDT	LW6MS-33LC7	—	—	
		Silver	DPDT	LW6MS-33LC6	—	LW6MS-33LC6M	
			3PDT	LW6MS-33LC7	—	—	
			3PDT	LW6MS-33LC7	—	—	

1. For replacement part numbers see page 666.
2. For contact operation see page 676.

Switches & Pilot Lights

Display Lights















Relays & Sockets

Timers

Terminal Blocks















Circuit Breakers

Non-illuminated Round Selector Switches with Black Plastic Bezel

Shape	Operatio	Position	Contact Material	Contact	Part Numbers		
					Solder/Tab Terminal	PC Board Terminal	Screw Terminal
 Round (Knob Operator)	90° 2-position Maintained		Gold	SPDT	LW6S-2C1	LW6S-2C1V	—
				DPDT	LW6S-2C2	LW6S-2C2V	LW6S-2C2M
				3PDT	LW6S-2C3	LW6S-2C3V	—
			Silver	SPDT	LW6S-2C5	—	—
				DPDT	LW6S-2C6	—	LW6S-2C6M
				3PDT	LW6S-2C7	—	—
	90° 2-position Spring Return from Right		Gold	SPDT	LW6S-21C1	LW6S-21C1V	—
				DPDT	LW6S-21C2	LW6S-21C2V	LW6S-21C2M
				3PDT	LW6S-21C3	LW6S-21C3V	—
			Silver	SPDT	LW6S-21C5	—	—
				DPDT	LW6S-21C6	—	LW6S-21C6M
				3PDT	LW6S-21C7	—	—
	45° 3-position Maintained		Gold	DPDT	LW6S-3C2	LW6S-3C2V	LW6S-3C2M
				3PDT	LW6S-3C3	LW6S-3C3V	—
				3PDT	LW6S-3C7	—	—
			Silver	DPDT	LW6S-3C6	—	LW6S-3C6M
				3PDT	LW6S-3C7	—	—
				3PDT	LW6S-3C7	—	—
	45° 3-position Spring Return from Right		Gold	DPDT	LW6S-31C2	LW6S-31C2V	LW6S-31C2M
				3PDT	LW6S-31C3	LW6S-31C3V	—
				3PDT	LW6S-31C7	—	—
			Silver	DPDT	LW6S-31C6	—	LW6S-31C6M
				3PDT	LW6S-31C7	—	—
				3PDT	LW6S-31C7	—	—
45° 3-position Spring Return from Left		Gold	DPDT	LW6S-32C2	LW6S-32C2V	LW6S-32C2M	
			3PDT	LW6S-32C3	LW6S-32C3V	—	
			3PDT	LW6S-32C7	—	—	
		Silver	DPDT	LW6S-32C6	—	LW6S-32C6M	
			3PDT	LW6S-32C7	—	—	
			3PDT	LW6S-32C7	—	—	
45° 3-position Spring Return Two-way		Gold	DPDT	LW6S-33C2	LW6S-33C2V	LW6S-33C2M	
			3PDT	LW6S-33C3	LW6S-33C3V	—	
			3PDT	LW6S-33C7	—	—	
		Silver	DPDT	LW6S-33C6	—	LW6S-33C6M	
			3PDT	LW6S-33C7	—	—	
			3PDT	LW6S-33C7	—	—	
 Round (Lever Operator)	90° 2-position Maintained		Gold	SPDT	LW6S-2LC1	LW6S-2LC1V	—
				DPDT	LW6S-2LC2	LW6S-2LC2V	LW6S-2LC2M
				3PDT	LW6S-2LC3	LW6S-2LC3V	—
			Silver	SPDT	LW6S-2LC5	—	—
				DPDT	LW6S-2LC6	—	LW6S-2LC6M
				3PDT	LW6S-2LC7	—	—
	90° 2-position Spring Return from Right		Gold	SPDT	LW6S-21LC1	LW6S-21LC1V	—
				DPDT	LW6S-21LC2	LW6S-21LC2V	LW6S-21LC2M
				3PDT	LW6S-21LC3	LW6S-21LC3V	—
			Silver	SPDT	LW6S-21LC5	—	—
				DPDT	LW6S-21LC6	—	LW6S-21LC6M
				3PDT	LW6S-21LC7	—	—
	45° 3-position Maintained		Gold	DPDT	LW6S-3LC2	LW6S-3LC2V	LW6S-3LC2M
				3PDT	LW6S-3LC3	LW6S-3LC3V	—
				3PDT	LW6S-3LC7	—	—
			Silver	DPDT	LW6S-3LC6	—	LW6S-3LC6M
				3PDT	LW6S-3LC7	—	—
				3PDT	LW6S-3LC7	—	—
	45° 3-position Spring Return from Right		Gold	DPDT	LW6S-31LC2	LW6S-31LC2V	LW6S-31LC2M
				3PDT	LW6S-31LC3	LW6S-31LC3V	—
				3PDT	LW6S-31LC7	—	—
			Silver	DPDT	LW6S-31LC6	—	LW6S-31LC6M
				3PDT	LW6S-31LC7	—	—
				3PDT	LW6S-31LC7	—	—
45° 3-position Spring Return from Left		Gold	DPDT	LW6S-32LC2	LW6S-32LC2V	LW6S-32LC2M	
			3PDT	LW6S-32LC3	LW6S-32LC3V	—	
			3PDT	LW6S-32LC7	—	—	
		Silver	DPDT	LW6S-32LC6	—	LW6S-32LC6M	
			3PDT	LW6S-32LC7	—	—	
			3PDT	LW6S-32LC7	—	—	
45° 3-position Spring Return Two-way		Gold	DPDT	LW6S-33LC2	LW6S-33LC2V	LW6S-33LC2M	
			3PDT	LW6S-33LC3	LW6S-33LC3V	—	
			3PDT	LW6S-33LC7	—	—	
		Silver	DPDT	LW6S-33LC6	—	LW6S-33LC6M	
			3PDT	LW6S-33LC7	—	—	
			3PDT	LW6S-33LC7	—	—	

1. For replacement part numbers see page 666.
2. For contact operation see page 676.

Non-illuminated Square Selector Switches with Black Plastic Bezel

Shape	Operation	Position	Contact Material	Contact	Part Numbers		
					Solder/Tab Terminal	PC Board Terminal	Screw Terminal
Square (Knob Operator) 	90° 2-position Maintained		Gold	SPDT	LW7S-2C1	LW7S-2C1V	—
				DPDT	LW7S-2C2	LW7S-2C2V	LW7S-2C2M
				3PDT	LW7S-2C3	LW7S-2C3V	—
			Silver	SPDT	LW7S-2C5	—	—
				DPDT	LW7S-2C6	—	LW7S-2C6M
				3PDT	LW7S-2C7	—	—
	90° 2-position Spring Return from Right		Gold	SPDT	LW7S-21C1	LW7S-21C1V	—
				DPDT	LW7S-21C2	LW7S-21C2V	LW7S-21C2M
				3PDT	LW7S-21C3	LW7S-21C3V	—
			Silver	SPDT	LW7S-21C5	—	—
				DPDT	LW7S-21C6	—	LW7S-21C6M
				3PDT	LW7S-21C7	—	—
	45° 3-position Maintained		Gold	DPDT	LW7S-3C2	LW7S-3C2V	LW7S-3C2M
				3PDT	LW7S-3C3	LW7S-3C3V	—
			Silver	DPDT	LW7S-3C6	—	LW7S-3C6M
	45° 3-position Spring Return from Right		Gold	DPDT	LW7S-31C2	LW7S-31C2V	LW7S-31C2M
				3PDT	LW7S-31C3	LW7S-31C3V	—
			Silver	DPDT	LW7S-31C6	—	LW7S-31C6M
	45° 3-position Spring Return from Left		Gold	DPDT	LW7S-32C2	LW7S-32C2V	LW7S-32C2M
				3PDT	LW7S-32C3	LW7S-32C3V	—
			Silver	DPDT	LW7S-32C6	—	LW7S-32C6M
45° 3-position Spring Return Two-way		Gold	DPDT	LW7S-33C2	LW7S-33C2V	LW7S-33C2M	
			3PDT	LW7S-33C3	LW7S-33C3V	—	
		Silver	DPDT	LW7S-33C6	—	LW7S-33C6M	
Square (Lever Operator) 	90° 2-position Maintained		Gold	SPDT	LW7S-2LC1	LW7S-2LC1V	—
				DPDT	LW7S-2LC2	LW7S-2LC2V	LW7S-2LC2M
				3PDT	LW7S-2LC3	LW7S-2LC3V	—
			Silver	SPDT	LW7S-2LC5	—	—
				DPDT	LW7S-2LC6	—	LW7S-2LC6M
				3PDT	LW7S-2LC7	—	—
	90° 2-position Spring Return from Right		Gold	SPDT	LW7S-21LC1	LW7S-21LC1V	—
				DPDT	LW7S-21LC2	LW7S-21LC2V	LW7S-21LC2M
				3PDT	LW7S-21LC3	LW7S-21LC3V	—
			Silver	SPDT	LW7S-21LC5	—	—
				DPDT	LW7S-21LC6	—	LW7S-21LC6M
				3PDT	LW7S-21LC7	—	—
	45° 3-position Maintained		Gold	DPDT	LW7S-3LC2	LW7S-3LC2V	LW7S-3LC2M
				3PDT	LW7S-3LC3	LW7S-3LC3V	—
			Silver	DPDT	LW7S-3LC6	—	LW7S-3LC6M
	45° 3-position Spring Return from Right		Gold	DPDT	LW7S-31LC2	LW7S-31LC2V	LW7S-31LC2M
				3PDT	LW7S-31LC3	LW7S-31LC3V	—
			Silver	DPDT	LW7S-31LC6	—	LW7S-31LC6M
	45° 3-position Spring Return from Left		Gold	DPDT	LW7S-32LC2	LW7S-32LC2V	LW7S-32LC2M
				3PDT	LW7S-32LC3	LW7S-32LC3V	—
			Silver	DPDT	LW7S-32LC6	—	LW7S-32LC6M
45° 3-position Spring Return Two-way		Gold	DPDT	LW7S-33LC2	LW7S-33LC2V	LW7S-33LC2M	
			3PDT	LW7S-33LC3	LW7S-33LC3V	—	
		Silver	DPDT	LW7S-33LC6	—	LW7S-33LC6M	



1. For replacement part numbers see page 666.
2. For contact operation see page 676.

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Round Key Selector Switches with Metal Bezel (2-Position and 3-Position)

Shape	Operation	Position	Key Retained at ●	Contact Material	Contact	Part Numbers		
						Solder/Tab Terminal	PC Board Terminal	Screw Terminal
Round	90° 2-position Maintained	A		Gold	SPDT	LW6MK-2C1A	LW6MK-2C1VA	—
					DPDT	LW6MK-2C2A	LW6MK-2C2VA	LW6MK-2C2MA
					3PDT	LW6MK-2C3A	LW6MK-2C3VA	—
				Silver	SPDT	LW6MK-2C5A	—	—
					DPDT	LW6MK-2C6A	—	LW6MK-2C6MA
					3PDT	LW6MK-2C7A	—	—
		B	Gold	SPDT	LW6MK-2C1B	LW6MK-2C1VB	—	
				DPDT	LW6MK-2C2B	LW6MK-2C2VB	LW6MK-2C2MB	
				3PDT	LW6MK-2C3B	LW6MK-2C3VB	—	
			Silver	SPDT	LW6MK-2C5B	—	—	
				DPDT	LW6MK-2C6B	—	LW6MK-2C6MB	
				3PDT	LW6MK-2C7B	—	—	
	C	Gold	SPDT	LW6MK-2C1C	LW6MK-2C1VC	—		
			DPDT	LW6MK-2C2C	LW6MK-2C2VC	LW6MK-2C2MC		
			3PDT	LW6MK-2C3C	LW6MK-2C3VC	—		
		Silver	SPDT	LW6MK-2C5C	—	—		
			DPDT	LW6MK-2C6C	—	LW6MK-2C6MC		
			3PDT	LW6MK-2C7C	—	—		
	90° 2-position Spring Return from Right	B		Gold	SPDT	LW6MK-21C1B	LW6MK-21C1VB	—
					DPDT	LW6MK-21C2B	LW6MK-21C2VB	LW6MK-21C2MB
					3PDT	LW6MK-21C3B	LW6MK-21C3VB	—
				Silver	SPDT	LW6MK-21C5B	—	—
					DPDT	LW6MK-21C6B	—	LW6MK-21C6MB
					3PDT	LW6MK-21C7B	—	—
45° 3-position Maintained	A		Gold	DPDT	LW6MK-3C2A	LW6MK-3C2VA	LW6MK-3C2MA	
				3PDT	LW6MK-3C3A	LW6MK-3C3VA	—	
				Silver	DPDT	LW6MK-3C6A	—	LW6MK-3C6MA
			3PDT		LW6MK-3C7A	—	—	
			B		Gold	DPDT	LW6MK-3C2B	LW6MK-3C2VB
				3PDT		LW6MK-3C3B	LW6MK-3C3VB	—
	Silver	DPDT		LW6MK-3C6B		—	LW6MK-3C6MB	
		3PDT		LW6MK-3C7B	—	—		
		C		Gold	DPDT	LW6MK-3C2C	LW6MK-3C2VC	LW6MK-3C2MC
	3PDT				LW6MK-3C3C	LW6MK-3C3VC	—	
	Silver		DPDT		LW6MK-3C6C	—	LW6MK-3C6MC	
			3PDT	LW6MK-3C7C	—	—		
			D	Gold	DPDT	LW6MK-3C2D	LW6MK-3C2VD	LW6MK-3C2MD
	3PDT				LW6MK-3C3D	LW6MK-3C3VD	—	
	Silver	DPDT			LW6MK-3C6D	—	LW6MK-3C6MD	
		3PDT		LW6MK-3C7D	—	—		
		E		Gold	DPDT	LW6MK-3C2E	LW6MK-3C2VE	LW6MK-3C2ME
	3PDT				LW6MK-3C3E	LW6MK-3C3VE	—	
	Silver		DPDT		LW6MK-3C6E	—	LW6MK-3C6ME	
			3PDT	LW6MK-3C7E	—	—		
			G	Gold	DPDT	LW6MK-3C2G	LW6MK-3C2VG	LW6MK-3C2MG
	3PDT				LW6MK-3C3G	LW6MK-3C3VG	—	
	Silver	DPDT			LW6MK-3C6G	—	LW6MK-3C6MG	
		3PDT		LW6MK-3C7G	—	—		
H		Gold		DPDT	LW6MK-3C2H	LW6MK-3C2VH	LW6MK-3C2MH	
	3PDT			LW6MK-3C3H	LW6MK-3C3VH	—		
	Silver		DPDT	LW6MK-3C6H	—	LW6MK-3C6MH		
		3PDT	LW6MK-3C7H	—	—			

*Key is retained in ● and removable in ○ position.

Switches & Pilot Lights

Display Lights


Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers



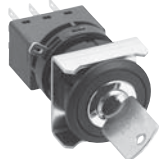









Shape	Operation	Position	Key Retained at ●	Contact Material	Contact	Part Numbers		
						Solder/Tab Terminal	PC Board Terminal	Screw Terminal
 Round	45° 3-position Spring Return from Right	B		Gold	DPDT	LW6MK-31C2B	LW6MK-31C2VB	LW6MK-31C2MB
					3PDT	LW6MK-31C3B	LW6MK-31C3VB	—
				Silver	DPDT	LW6MK-31C6B	—	LW6MK-31C6MB
					3PDT	LW6MK-31C7B	—	—
		D	Gold	DPDT	LW6MK-31C2D	LW6MK-31C2VD	LW6MK-31C2MD	
				3PDT	LW6MK-31C3D	LW6MK-31C3VD	—	
			Silver	DPDT	LW6MK-31C6D	—	LW6MK-31C6MD	
				3PDT	LW6MK-31C7D	—	—	
		G	Gold	DPDT	LW6MK-31C2G	LW6MK-31C2VG	LW6MK-31C2MG	
				3PDT	LW6MK-31C3G	LW6MK-31C3VG	—	
			Silver	DPDT	LW6MK-31C6G	—	LW6MK-31C6MG	
				3PDT	LW6MK-31C7G	—	—	
	45° 3-position Spring Return from Left	C		Gold	DPDT	LW6MK-32C2C	LW6MK-32C2VC	LW6MK-32C2MC
					3PDT	LW6MK-32C3C	LW6MK-32C3VC	—
				Silver	DPDT	LW6MK-32C6C	—	LW6MK-32C6MC
					3PDT	LW6MK-32C7C	—	—
		D	Gold	DPDT	LW6MK-32C2D	LW6MK-32C2VD	LW6MK-32C2MD	
				3PDT	LW6MK-32C3D	LW6MK-32C3VD	—	
			Silver	DPDT	LW6MK-32C6D	—	LW6MK-32C6MD	
				3PDT	LW6MK-32C7D	—	—	
		H	Gold	DPDT	LW6MK-32C2H	LW6MK-32C2VH	LW6MK-32C2MH	
				3PDT	LW6MK-32C3H	LW6MK-32C3VH	—	
			Silver	DPDT	LW6MK-32C6H	—	LW6MK-32C6MH	
				3PDT	LW6MK-32C7H	—	—	
45° 3-position Spring Return Two-way	D		Gold	DPDT	LW6MK-33C2D	LW6MK-33C2VD	LW6MK-33C2MD	
				3PDT	LW6MK-33C3D	LW6MK-33C3VD	—	
			Silver	DPDT	LW6MK-33C6D	—	LW6MK-33C6MD	
				3PDT	LW6MK-33C7D	—	—	







1. Key is retained in ● position and removable in ○ position.
2. Two keys are supplied.
3. Key cylinder face material: Metal
4. To select different key numbers, specify numbers from 501 to 515 after the part number. When a key number is not specified, key number 500 is supplied as the default key.
Example: LW6MK-2C1A-501
500 (default key) to 515
5. For replacement part numbers see page 666.
6. For Contact Operation chart see page 676.

Switches & Pilot Lights
Display Lights
Relays & Sockets
Timers
Terminal Blocks
Circuit Breakers

Key Selector Switches with Black Plastic Bezel (2-Position and 3-Position)

Shape	Operation	Position	Key Retained at ●	Contact Material	Contact	Part Numbers		
						Solder/Tab Terminal	PC Board Terminal	Screw Terminal
Round 	90° 2-position Maintained	A		Gold	SPDT	LW6K-2C1A	LW6K-2C1VA	—
					DPDT	LW6K-2C2A	LW6K-2C2VA	LW6K-2C2A
					3PDT	LW6K-2C3A	LW6K-2C3VA	—
				Silver	SPDT	LW6K-2C5A	—	—
					DPDT	LW6K-2C6A	—	LW6K-2C6A
					3PDT	LW6K-2C7A	—	—
		B	Gold	SPDT	LW6K-2C1B	LW6K-2C1VB	—	
				DPDT	LW6K-2C2B	LW6K-2C2VB	LW6K-2C2B	
				3PDT	LW6K-2C3B	LW6K-2C3VB	—	
			Silver	SPDT	LW6K-2C5B	—	—	
				DPDT	LW6K-2C6B	—	LW6K-2C6B	
				3PDT	LW6K-2C7B	—	—	
	C	Gold		SPDT	LW6K-2C1C	LW6K-2C1VC	—	
				DPDT	LW6K-2C2C	LW6K-2C2VC	LW6K-2C2C	
				3PDT	LW6K-2C3C	LW6K-2C3VC	—	
		Silver	SPDT	LW6K-2C5C	—	—		
			DPDT	LW6K-2C6C	—	LW6K-2C6C		
			3PDT	LW6K-2C7C	—	—		
	90° 2-position Spring Return from Right	B		Gold	SPDT	LW6K-21C1B	LW6K-21C1VB	—
					DPDT	LW6K-21C2B	LW6K-21C2VB	LW6K-21C2B
					3PDT	LW6K-21C3B	LW6K-21C3VB	—
				Silver	SPDT	LW6K-21C5B	—	—
					DPDT	LW6K-21C6B	—	LW6K-21C6B
					3PDT	LW6K-21C7B	—	—
45° 3-position Maintained	A		Gold	DPDT	LW6K-3C2A	LW6K-3C2VA	LW6K-3C2A	
				3PDT	LW6K-3C3A	LW6K-3C3VA	—	
				Silver	DPDT	LW6K-3C6A	—	LW6K-3C6A
			Silver	3PDT	LW6K-3C7A	—	—	
				Gold	DPDT	LW6K-3C2B	LW6K-3C2VB	LW6K-3C2B
					3PDT	LW6K-3C3B	LW6K-3C3VB	—
	Silver	DPDT	LW6K-3C6B		—	LW6K-3C6B		
	Silver	3PDT	LW6K-3C7B	—	—			
		Gold		DPDT	LW6K-3C2C	LW6K-3C2VC	LW6K-3C2C	
				3PDT	LW6K-3C3C	LW6K-3C3VC	—	
	Silver			DPDT	LW6K-3C6C	—	LW6K-3C6C	
	Silver	3PDT	LW6K-3C7C	—	—			
		Gold		DPDT	LW6K-3C2D	LW6K-3C2VD	LW6K-3C2D	
				3PDT	LW6K-3C3D	LW6K-3C3VD	—	
	Silver			DPDT	LW6K-3C6D	—	LW6K-3C6D	
	Silver	3PDT	LW6K-3C7D	—	—			
		Gold		DPDT	LW6K-3C2E	LW6K-3C2VE	LW6K-3C2E	
				3PDT	LW6K-3C3E	LW6K-3C3VE	—	
	Silver			DPDT	LW6K-3C6E	—	LW6K-3C6E	
	Silver	3PDT	LW6K-3C7E	—	—			
		Gold		DPDT	LW6K-3C2G	LW6K-3C2VG	LW6K-3C2G	
				3PDT	LW6K-3C3G	LW6K-3C3VG	—	
	Silver			DPDT	LW6K-3C6G	—	LW6K-3C6G	
	Silver	3PDT	LW6K-3C7G	—	—			
Gold			DPDT	LW6K-3C2H	LW6K-3C2VH	LW6K-3C2H		
			3PDT	LW6K-3C3H	LW6K-3C3VH	—		
	Silver		DPDT	LW6K-3C6H	—	LW6K-3C6H		
Silver	3PDT	LW6K-3C7H	—	—				

*Key is retained in ● and removable in ○ position.

Shape	Operation	Position	Key Retained at ●	Contact Material	Contact	Part Numbers		
						Solder/Tab Terminal	PC Board Terminal	Screw Terminal
Round 	45° 3-position Spring Return from Right	B		Gold	DPDT	LW6K-31C2B	LW6K-31C2VB	LW6K-31C2B
					3PDT	LW6K-31C3B	LW6K-31C3VB	—
				Silver	DPDT	LW6K-31C6B	—	LW6K-31C6B
					3PDT	LW6K-31C7B	—	—
		D	Gold	DPDT	LW6K-31C2D	LW6K-31C2VD	LW6K-31C2D	
				3PDT	LW6K-31C3D	LW6K-31C3VD	—	
			Silver	DPDT	LW6K-31C6D	—	LW6K-31C6D	
				3PDT	LW6K-31C7D	—	—	
		G	Gold	DPDT	LW6K-31C2G	LW6K-31C2VG	LW6K-31C2G	
				3PDT	LW6K-31C3G	LW6K-31C3VG	—	
			Silver	DPDT	LW6K-31C6G	—	LW6K-31C6G	
				3PDT	LW6K-31C7G	—	—	
	45° 3-position Spring Return from Left	C		Gold	DPDT	LW6K-32C2C	LW6K-32C2VC	LW6K-32C2C
					3PDT	LW6K-32C3C	LW6K-32C3VC	—
				Silver	DPDT	LW6K-32C6C	—	LW6K-32C6C
					3PDT	LW6K-32C7C	—	—
		D	Gold	DPDT	LW6K-32C2D	LW6K-32C2VD	LW6K-32C2D	
				3PDT	LW6K-32C3D	LW6K-32C3VD	—	
			Silver	DPDT	LW6K-32C6D	—	LW6K-32C6D	
				3PDT	LW6K-32C7D	—	—	
		H	Gold	DPDT	LW6K-32C2H	LW6K-32C2VH	LW6K-32C2H	
				3PDT	LW6K-32C3H	LW6K-32C3VH	—	
			Silver	DPDT	LW6K-32C6H	—	LW6K-32C6H	
				3PDT	LW6K-32C7H	—	—	
45° 3-position Spring Return Two-way	D		Gold	DPDT	LW6K-33C2D	LW6K-33C2VD	LW6K-33C2D	
				3PDT	LW6K-33C3D	LW6K-33C3VD	—	
			Silver	DPDT	LW6K-33C6D	—	LW6K-33C6D	
				3PDT	LW6K-33C7D	—	—	



1. Key is retained in ● position and removable in ○ position.
2. Two keys are supplied.
3. Key cylinder face: Metal
4. To select different key numbers, specify numbers from 501 to 515 after the part number. When a key number is not specified, key number 500 is supplied as the default key.
Example: LW6MK-2C1A-501
5. For replacement part numbers see page 666.
6. For Contact Operation chart see page 676.

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Illuminated Round Selector Switches with Metal or Black Plastic Bezel

Shape	Operation	Position	Contact Material	Contact	Part Numbers		
					Solder/Tab Terminal	PC Board Terminal	Screw Terminal
Round (Knob Operator)	90° 2-position Maintained		Gold	SPDT	LW6MF-2C1③②	LW6MF-2C1③V②	—
				DPDT	LW6MF-2C2③②	LW6MF-2C2③V②	LW6MF-2C2③M②
				3PDT	LW6MF-2C3③②	LW6MF-2C3③V②	—
			Silver	SPDT	LW6MF-2C5③②	—	—
				DPDT	LW6MF-2C6③②	—	LW6MF-2C6③M②
				3PDT	LW6MF-2C7③②	—	—
	90° 2-position spring Return from Right		Gold	SPDT	LW6MF-21C1③②	LW6MF-21C1③V②	—
				DPDT	LW6MF-21C2③②	LW6MF-21C2③V②	LW6MF-21C2③M②
				3PDT	LW6MF-21C3③②	LW6MF-21C3③V②	—
			Silver	SPDT	LW6MF-21C5③②	—	—
				DPDT	LW6MF-21C6③②	—	LW6MF-21C6③M②
				3PDT	LW6MF-21C7③②	—	—
45° 3-position Maintained		Gold	DPDT	LW6MF-3C2③②	LW6MF-3C2③V②	LW6MF-3C2③M②	
			3PDT	LW6MF-3C3③②	LW6MF-3C3③V②	—	
			3PDT	LW6MF-3C7③②	—	—	
		Silver	DPDT	LW6MF-3C6③②	—	LW6MF-3C6③M②	
			3PDT	LW6MF-3C7③②	—	—	
			3PDT	LW6MF-3C7③②	—	—	
45° 3-position spring Return from Right		Gold	DPDT	LW6MF-31C2③②	LW6MF-31C2③V②	LW6MF-31C2③M②	
			3PDT	LW6MF-31C3③②	LW6MF-31C3③V②	—	
			3PDT	LW6MF-31C7③②	—	—	
		Silver	DPDT	LW6MF-31C6③②	—	LW6MF-31C6③M②	
			3PDT	LW6MF-31C7③②	—	—	
			3PDT	LW6MF-31C7③②	—	—	
45° 3-position spring Return from Left		Gold	DPDT	LW6MF-32C2③②	LW6MF-32C2③V②	LW6MF-32C2③M②	
			3PDT	LW6MF-32C3③②	LW6MF-32C3③V②	—	
			3PDT	LW6MF-32C7③②	—	—	
		Silver	DPDT	LW6MF-32C6③②	—	LW6MF-32C6③M②	
			3PDT	LW6MF-32C7③②	—	—	
			3PDT	LW6MF-32C7③②	—	—	
45° 3-position spring Return Two-way		Gold	DPDT	LW6MF-33C2③②	LW6MF-33C2③V②	LW6MF-33C2③M②	
			3PDT	LW6MF-33C3③②	LW6MF-33C3③V②	—	
			3PDT	LW6MF-33C7③②	—	—	
		Silver	DPDT	LW6MF-33C6③②	—	LW6MF-33C6③M②	
			3PDT	LW6MF-33C7③②	—	—	
			3PDT	LW6MF-33C7③②	—	—	
Round (Knob Operator)	90° 2-position Maintained		Gold	SPDT	LW6F-2C1③②	LW6F-2C1③V②	—
				DPDT	LW6F-2C2③②	LW6F-2C2③V②	LW6F-2C2③M②
				3PDT	LW6F-2C3③②	LW6F-2C3③V②	—
			Silver	SPDT	LW6F-2C5③②	—	—
				DPDT	LW6F-2C6③②	—	LW6F-2C6③M②
				3PDT	LW6F-2C7③②	—	—
	90° 2-position Spring Return from Right		Gold	SPDT	LW6F-21C1③②	LW6F-21C1③V②	—
				DPDT	LW6F-21C2③②	LW6F-21C2③V②	LW6F-21C2③M②
				3PDT	LW6F-21C3③②	LW6F-21C3③V②	—
			Silver	SPDT	LW6F-21C5③②	—	—
				DPDT	LW6F-21C6③②	—	LW6F-21C6③M②
				3PDT	LW6F-21C7③②	—	—
45° 3-position Maintained		Gold	DPDT	LW6F-3C2③②	LW6F-3C2③V②	LW6F-3C2③M②	
			3PDT	LW6F-3C3③②	LW6F-3C3③V②	—	
			3PDT	LW6F-3C7③②	—	—	
		Silver	DPDT	LW6F-3C6③②	—	LW6F-3C6③M②	
			3PDT	LW6F-3C7③②	—	—	
			3PDT	LW6F-3C7③②	—	—	
45° 3-position Spring Return from Right		Gold	DPDT	LW6F-31C2③②	LW6F-31C2③V②	LW6F-31C2③M②	
			3PDT	LW6F-31C3③②	LW6F-31C3③V②	—	
			3PDT	LW6F-31C7③②	—	—	
		Silver	DPDT	LW6F-31C6③②	—	LW6F-31C6③M②	
			3PDT	LW6F-31C7③②	—	—	
			3PDT	LW6F-31C7③②	—	—	
45° 3-position Spring Return from Left		Gold	DPDT	LW6F-32C2③②	LW6F-32C2③V②	LW6F-32C2③M②	
			3PDT	LW6F-32C3③②	LW6F-32C3③V②	—	
			3PDT	LW6F-32C7③②	—	—	
		Silver	DPDT	LW6F-32C6③②	—	LW6F-32C6③M②	
			3PDT	LW6F-32C7③②	—	—	
			3PDT	LW6F-32C7③②	—	—	
45° 3-position Spring Return Two-way		Gold	DPDT	LW6F-33C2③②	LW6F-33C2③V②	LW6F-33C2③M②	
			3PDT	LW6F-33C3③②	LW6F-33C3③V②	—	
			3PDT	LW6F-33C7③②	—	—	
		Silver	DPDT	LW6F-33C6③②	—	LW6F-33C6③M②	
			3PDT	LW6F-33C7③②	—	—	
			3PDT	LW6F-33C7③②	—	—	

② **Color Code**

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W
Yellow	Y

③ **Voltage Code**

Voltage	Code
6V AC/DC	2
12V AC/DC	3
24V AC/DC	4
120V AC	5
240V AC	6



- In place of ③ insert Lens/LED color code from table.
- In place of ③ insert Voltage code from table.
- Every illuminated selector switch contains an LED lamp (LSTD) of the specified color and voltage.
- For replacement part numbers see page 666.
- For Contact Operation chart see page 676.
- Yellow selector switch comes with white LED.

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers


Round
(Knob Operator)



Round
(Knob Operator)



Illuminated Square Selector Switches with Black Plastic Bezel

Shape	Operation	Position	Contact Material	Contact	Part Numbers				
					Solder/Tab Terminal	PC Board Terminal	Screw Terminal		
Square (Knob Operator) 	90° 2-position Maintained		Gold	SPDT	LW7F-2C1 ^③ ②	LW7F-2C1 ^③ V②	—		
				DPDT	LW7F-2C2 ^③ ②	LW7F-2C2 ^③ V②	LW7F-2C2 ^③ M②		
				3PDT	LW7F-2C3 ^③ ②	LW7F-2C3 ^③ V②	—		
			Silver	SPDT	LW7F-2C5 ^③ ②	—	—		
				DPDT	LW7F-2C6 ^③ ②	—	LW7F-2C6 ^③ M②		
				3PDT	LW7F-2C7 ^③ ②	—	—		
	90° 2-position Spring Return from Right		Gold	SPDT	LW7F-21C1 ^③ ②	LW7F-21C1 ^③ V②	—		
				DPDT	LW7F-21C2 ^③ ②	LW7F-21C2 ^③ V②	LW7F-21C2 ^③ M②		
				3PDT	LW7F-21C3 ^③ ②	LW7F-21C3 ^③ V②	—		
			Silver	SPDT	LW7F-21C5 ^③ ②	—	—		
				DPDT	LW7F-21C6 ^③ ②	—	LW7F-21C6 ^③ M②		
				3PDT	LW7F-21C7 ^③ ②	—	—		
	45° 3-position Maintained		Gold	DPDT	LW7F-3C2 ^③ ②	LW7F-3C2 ^③ V②	LW7F-3C2 ^③ M②		
				3PDT	LW7F-3C3 ^③ ②	LW7F-3C3 ^③ V②	—		
				Silver	DPDT	LW7F-3C6 ^③ ②	—	LW7F-3C6 ^③ M②	
			3PDT		LW7F-3C7 ^③ ②	—	—		
			45° 3-position Spring Return from Right			Gold	DPDT	LW7F-31C2 ^③ ②	LW7F-31C2 ^③ V②
				3PDT			LW7F-31C3 ^③ ②	LW7F-31C3 ^③ V②	—
	Silver	DPDT		LW7F-31C6 ^③ ②			—	LW7F-31C6 ^③ M②	
		3PDT		LW7F-31C7 ^③ ②		—	—		
		45° 3-position Spring Return from Left				Gold	DPDT	LW7F-32C2 ^③ ②	LW7F-32C2 ^③ V②
	3PDT						LW7F-32C3 ^③ ②	LW7F-32C3 ^③ V②	—
	Silver		DPDT		LW7F-32C6 ^③ ②		—	LW7F-32C6 ^③ M②	
			3PDT		LW7F-32C7 ^③ ②	—	—		
45° 3-position Spring Return Two-way					Gold	DPDT	LW7F-33C2 ^③ ②	LW7F-33C2 ^③ V②	LW7F-33C2 ^③ M②
	3PDT					LW7F-33C3 ^③ ②	LW7F-33C3 ^③ V②	—	
	Silver	DPDT		LW7F-33C6 ^③ ②		—	LW7F-33C6 ^③ M②		
		3PDT		LW7F-33C7 ^③ ②	—	—			

② Color Code

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W
Yellow	Y

③ Voltage Code

Voltage	Code
6V AC/DC	2
12V AC/DC	3
24V AC/DC	4
120V AC	5
240V AC	6



1. In place of ② insert Lens/LED color code from table.
2. In place of ③ insert Voltage code from table.
3. Every illuminated selector switch contains an LED lamp (LSTD) of the specified color and voltage.
4. For replacement part numbers see page 666.
5. For Contact Operation chart see page 676.
6. Yellow selector switch comes with white LED.

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Replacement Parts Operators

Pilot Lights

Shape	Terminals	Part Number
Round	Solder Tab	LW6ⓄP-00
	Screw	LW6ⓄP-00M
	PC Board	LW6ⓄP-0
Square	Solder Tab	LW7P-00
	Screw	LW7P-00M
	PC Board	LW7P-0



In place of Ⓞ insert Bezel Code.

Non-illuminated & Illuminated Pushbuttons

Shape	Function	Part Number
Round	Maintained	LW6ⓄL-A0
	Momentary	LW6ⓄL-M0
Square	Maintained	LW7L-A0
	Momentary	LW7L-M0
Square with Guard	Maintained	LW7GL-A0
	Momentary	LW7GL-M0



In place of Ⓞ insert Bezel Code.

Non-illuminated Selector Switches

Position	Shape	Function	Handle	Part Number	
2-Position	Round	Maintained	Knob	LW6ⓄS-2Y	
			Lever	LW6ⓄS-2L	
		Spring Return from Right	Knob	LW6ⓄS-21Y	
	Lever		LW6ⓄS-21L		
	3-Position	Square	Maintained	Knob	LW7S-2Y
				Lever	LW7S-2L
Spring Return from Right			Knob	LW7S-21Y	
			Lever	LW7S-21L	
Round			Maintained	Knob	LW6ⓄS-3Y
				Lever	LW6ⓄS-3L
	Spring Return from Right	Knob	LW6ⓄS-31Y		
		Lever	LW6ⓄS-31L		
Spring Return from Left	Knob	LW6ⓄS-32Y			
	Lever	LW6ⓄS-32L			
Square	Two-way Spring Return	Knob	LW6ⓄS-33Y		
		Lever	LW6ⓄS-33L		
	Maintained	Knob	LW7S-3Y		
		Lever	LW7S-3L		
Spring Return from Right	Knob	LW7S-31Y			
	Lever	LW7S-31L			
Spring Return from Left	Knob	LW7S-32Y			
	Lever	LW7S-32L			
Two-way Spring Return	Knob	LW7S-33Y			
	Lever	LW7S-33L			

Ⓞ Bezel Code

	Code
blank	Black Plastic Bezel
M	Metal Bezel



In place of Ⓞ insert Bezel Code.

Illuminated Selector Switches

Position	Shape	Function	Part Number
2-Position	Round	Maintained	LW6ⓄF-20
		Spring Return from Right	LW6ⓄF-210
	Square	Maintained	LW7F-20
		Spring Return from Right	LW7F-210
3-Position	Round	Maintained	LW6ⓄF-30
		Spring Return from Right	LW6ⓄF-310
		Spring Return from Left	LW6ⓄF-320
		Two-way Spring Return	LW6ⓄF-330
	Square	Maintained	LW7F-30
		Spring Return from Right	LW7F-310
		Spring Return from Left	LW7F-320
		Two-way Spring Return	LW7F-330

In place of Ⓞ insert Bezel Code.

Key Selector Switches

Position	Shape	Function	Part Number
2-Position	Round	Maintained	LW6ⓄK-2
		Spring Return from Right	LW6ⓄK-21
3-Position	Round	Maintained	LW6ⓄK-3Ⓞ
		Spring Return from Right	LW6ⓄK-31Ⓞ
		Spring Return from Left	LW6ⓄK-32Ⓞ
		Two-way Spring Return	LW6ⓄK-33Ⓞ

1. In place of Ⓞ insert Bezel Code.
2. In place of Ⓞ insert Key Removable Option Code.







Ⓞ Bezel Code

Code	Description
blank	Black Plastic Bezel
M	Metal Bezel

Ⓞ Key Removable Option Codes




Code	Description
A	Key not retained in any position (removable in all positions)
B	Key retained in right position only
C	Key retained in left position only
D	Key retained in left and right (3 position only)
E	Key retained in center only (3 position only)
G	Key retained right and center (3 position only)
H	Key retained left and center (3 position only)

Switches & Pilot Lights
Display Lights
Relays & Sockets
Lens/Buttons*



Shape	Material	Part Number	Color Code
Lens (Round Flush) 	Polyarylate	LW1A-L1-Ⓢ	Specify color code in place of Ⓢ in the part number. A: amber C: clear G: green R: red S: blue Y: yellow Note: Use a clear lens for white illumination or for white (W) or black (B) buttons.
Lens (Round Extended) 	Polyarylate	LW1A-L2-Ⓢ	
Lens (Square Flush) 	Polyarylate	LW2A-L1-Ⓢ	
Lens for Pilot Lights (Round Extended) 	Polyarylate	LW1A-P2-Ⓢ	
Lens for Pilot Lights (Square Extended) 	Polyarylate	LW2A-P2-Ⓢ	
Illuminated Selector Knob Operator 	Plastic	LW9Z-FD6Ⓢ	

 *Marking plate included with lens.


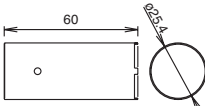



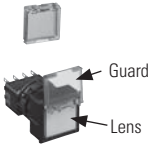
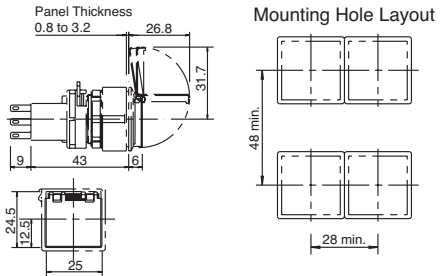

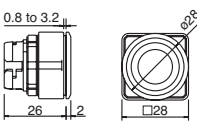

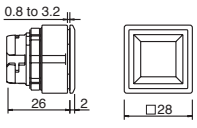

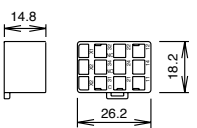

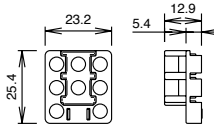

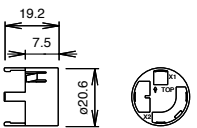

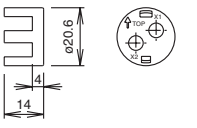
Timers
Terminal Blocks
Marking Plates

Shape	Material	Part Number	Color Code
Marking Plate (Round) 	Acrylic	LW9Z-P1W	For round flush pushbuttons, round flush illuminated pushbuttons, and round extended pilot lights.
Marking Plate (Square) 	Acrylic	LW9Z-P2W	For square flush pushbuttons, square flush illuminated pushbuttons, and square extended pilot lights.
Marking Plate (Round Extended) 	Acrylic	LW9Z-P12W	For round extended pushbuttons and round extended illuminated pushbuttons.

Miscellaneous

Shape	Material	Part Number	Color Code
Locking Ring 	Plastic	LW9Z-LN	Black
Spare Key 	Metal	LW9Z-SK-500	Standard – default key
		LW9Z-SK-Ⓢ	Specify a key number 501 to 515 in place of Ⓢ in the part number.

Accessories

Shape	Material	Part Number	Description	Dimensions (mm)
 <p>Locking Ring Wrench</p>	Metal (nickel-plated brass)	LW9Z-T1	Used to tighten the locking ring when installing into a panel. Tightening torque: 1.2 N·m	
 <p>Lamp Holder Tool</p>	Rubber	OR-55	Used to install and remove LED lamps.	
 <p>Lens Removal Tool</p>	Rubber (Ring: metal)	MT-S01	Used to remove the lenses.	
 <p>Switch Guard with Lens (for Square Flush Lens) Spring Return Type</p>	Plastic (Guard: transparent)	LW9Z-KS7 [Ⓢ]	Switch guard accessory comes with lens. Cannot be used with maintained types (momentary buttons only). Specify a lens color code in place of [Ⓢ] in the part number. A: amber, C: clear, G: green, R: red, S: blue, Y: yellow Use a clear lens for white illumination or for white (W) or black (B) buttons. Note: Determine mounting centers to ensure easy operation.	
 <p>Round Mounting Hole Plug</p>	Plastic (black)	LW9Z-BS6	Degree of protection: IP65 Panel thickness: 0.8 to 3.2 mm See page 675 for mounting hole layout.	
 <p>Square Mounting Hole Plug</p>	Plastic (black)	LW9Z-BS7	Degree of protection: IP65 Panel thickness: 0.8 to 3.2 mm See page 675 for mounting hole layout.	
 <p>Terminal Cover For Solder/Tab Terminal</p>	Plastic (translucent)	LW-VL2	For separate solder/tab terminal units only.	
 <p>Terminal Cover For Screw Terminal</p>	Plastic (black)	LW-VL2M	For separate screw terminal units only.	
 <p>Terminal Cover For Solder/Tab Terminal</p>	Plastic (translucent)	LW-PVL	For unibody solder/tab terminal pilot lights only.	
 <p>Terminal Cover For Screw Terminal</p>	Plastic (translucent)	LW-PVLM	For unibody screw terminal pilot lights only.	

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Contact Blocks

Appearance	Style	Contact Material	Contact	Part Number		
				Solder/Tab	PC Board	Screw
	Non-illuminated Switches	Gold	SPDT	LW-C1	LW-C1V	—
			DPDT	LW-C2	LW-C2V	LW-C2M
			3PDT	LW-C3	LW-C3V	—
		Silver	SPDT	LW-C5	—	—
			DPDT	LW-C6	—	LW-C6M
			3PDT	LW-C7	—	—
	Illuminated Switches	Gold	SPDT	LW-C10	LW-C10V	—
			DPDT	LW-C20	LW-C20V	LW-C20M
			3PDT	LW-C30	LW-C30V	—
		Silver	SPDT	LW-C50	—	—
			DPDT	LW-C60	—	LW-C60M
			3PDT	LW-C70	—	—

Switches & Pilot Lights

Display Lights

Relays & Sockets

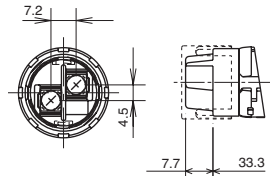
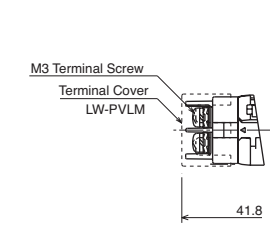
Timers

Terminal Blocks

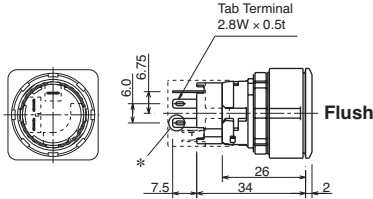
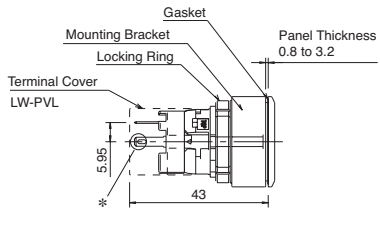
Circuit Breakers

Pilot Lights

Unibody

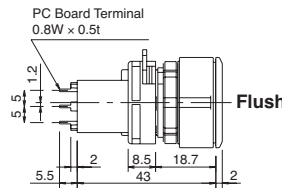
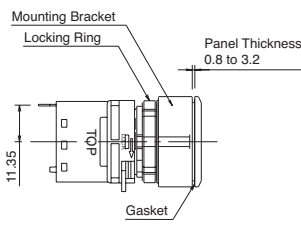


Screw Terminal

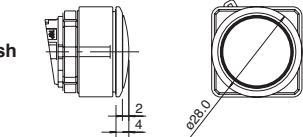
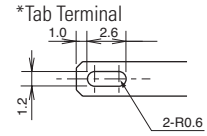


Solder/Tab Terminal

Separate Model



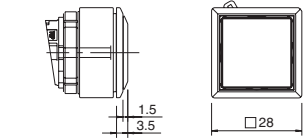
PC Board Terminal



Round (Extended)



Round



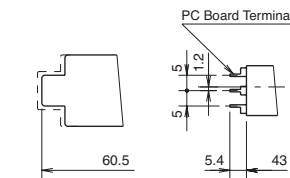
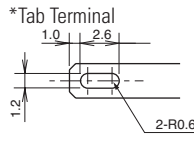
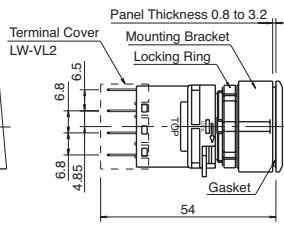
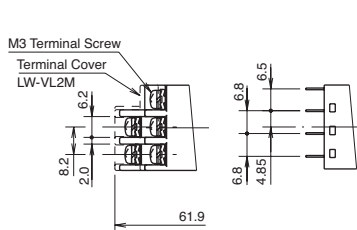
Square (Extended)



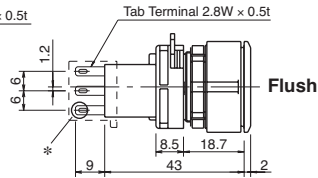
Square

Illuminated Pushbuttons

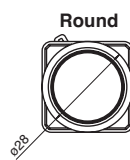
Round/Square



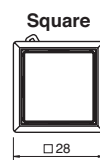
Screw Terminal



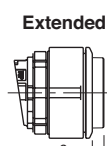
Solder/Tab Terminal



Round

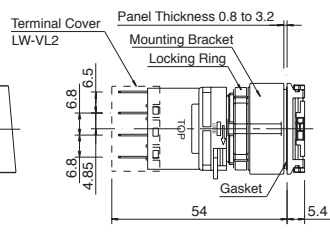
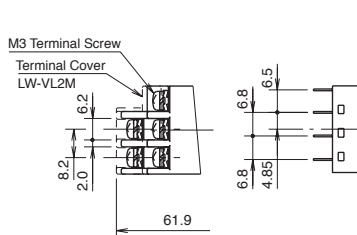


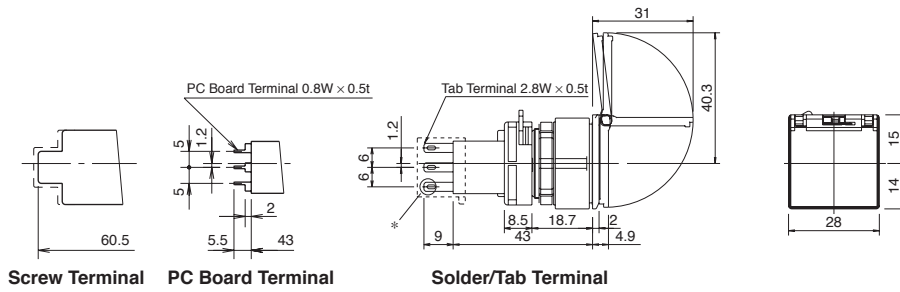
Square



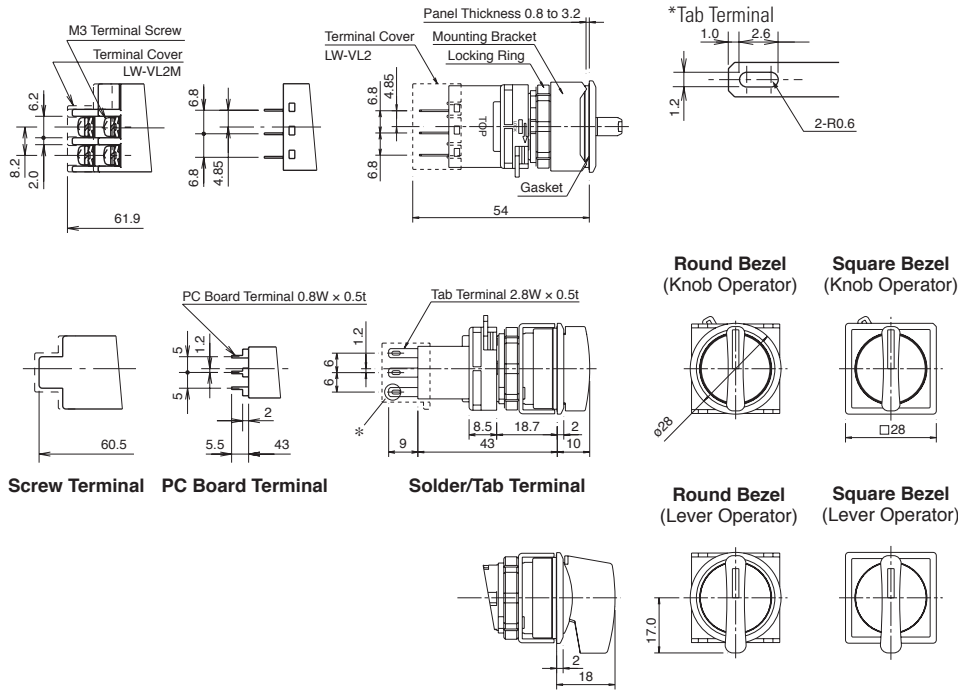
Extended

Square Flush Guard

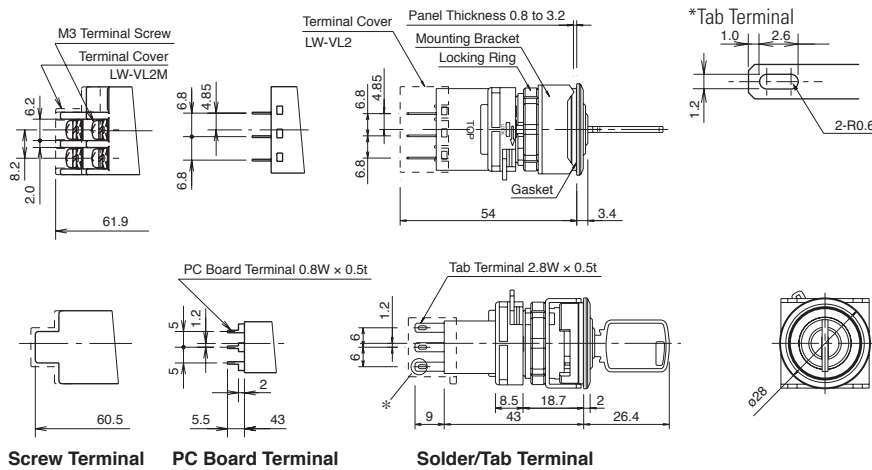




Non-illuminated Selector Switches

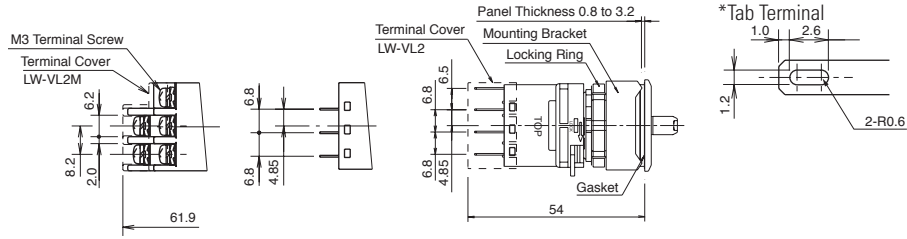


Key Selector Switches

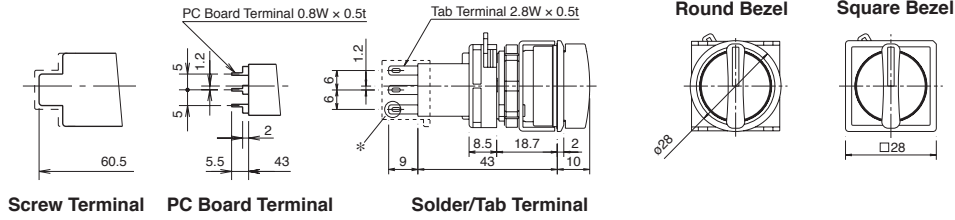


Switches & Pilot Lights

Illuminated Selector Switches



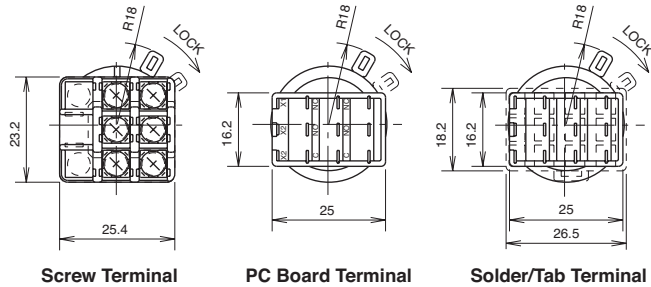
Display Lights



Screw Terminal PC Board Terminal Solder/Tab Terminal

Relays & Sockets

Bottom View



Screw Terminal PC Board Terminal Solder/Tab Terminal

Timers

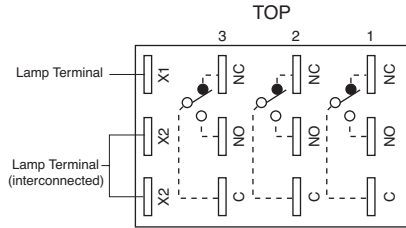
Terminal Blocks

Circuit Breakers

Terminal Arrangements

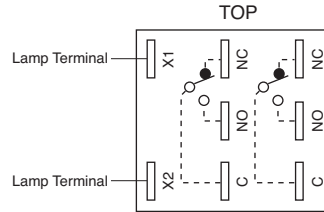
Illuminated Units (except pilot lights)

Solder/Tab Terminal



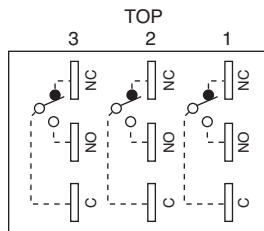
SPDT has C, NO, and NC only in the center. DPDT has C, NO, and NC only on the right and left. Screw terminal model is only available in DPDT configuration.

Screw Terminal



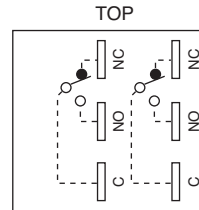
All Non-illuminated Units

Solder/Tab Terminal



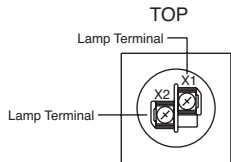
SPDT has C, NO, and NC only in the center. DPDT has C, NO, and NC only on the right and left. Screw terminal model is only available in DPDT configuration.

Screw Terminal

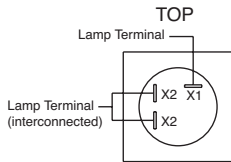


Unibody Pilot Lights

Screw Terminal

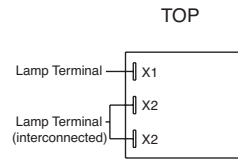


Solder/Tab Terminal



Lamp terminals do not have any polarity.

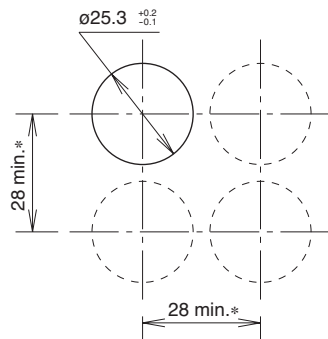
Separate Model



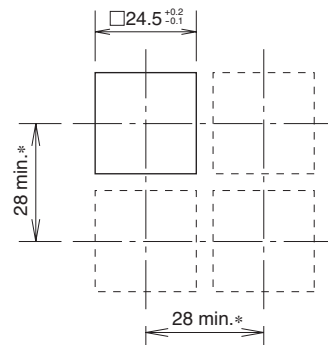
Lamp terminals do not have any polarity.

Mounting Hole Layout

Round Models

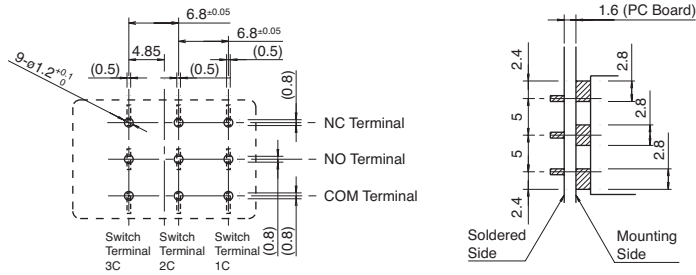


Square Models



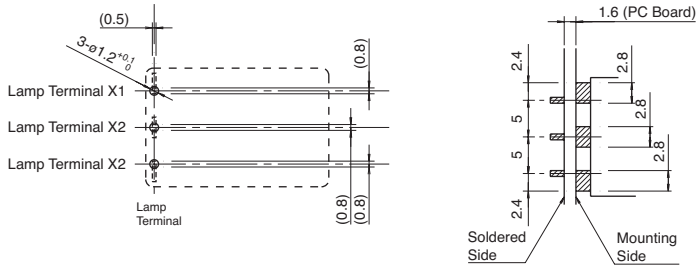
PC Board Drilling Layout (bottom view)

Non-illuminated Pushbuttons



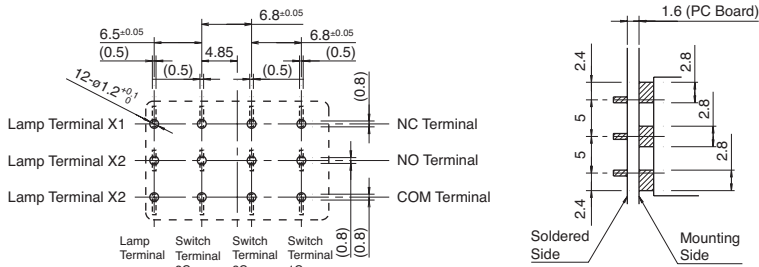
The pattern of the PC board as the terminals on the mounting surface are 2.8mm wide.

Pilot Lights



The pattern of the PC board as the terminals on the mounting surface are 2.8mm wide.

Illuminated Pushbuttons



The pattern of the PC board as the terminals on the mounting surface are 2.8mm wide.

Contact Operation*

Operation	Contact	Operator Position & Contact Position (Top View)		Operation	Contact	Operator Position & Contact Position (Top View)		
		Left	Right			Left	Center	Right
90° 2-Position L R	SPDT DPDT	Left Contact NO NC Right Contact NO NC	Left Contact NO NC Right Contact NO NC	45° 3-Position L C R	DPDT	Left Contact NO NC Right Contact NO NC	Left Contact NO NC Right Contact NO NC	Left Contact NO NC Right Contact NO NC
	3PDT	Left Contact NO NC Center Contact NO NC Right Contact NO NC	Left Contact NO NC Center Contact NO NC Right Contact NO NC			Left Contact NO NC Center Contact NO NC Right Contact NO NC	Left Contact NO NC Center Contact NO NC Right Contact NO NC	Left Contact NO NC Center Contact NO NC Right Contact NO NC

*Valid for all Non-illuminated and Illuminated Selector Switches and Key Selector Switches.

Safety Precautions

Turn off the power to the flush silhouette LW series before installation, removal, wiring, maintenance and inspection. Failure to turn power off may cause an electrical shock or fire hazard.

To avoid burning your hand, use the lamp holder tool when replacing lamps.

For wiring, use the correct size wires to meet voltage and current requirements. Solder correctly according to the instructions in **Wiring** and **Terminal Cover** (below and on following page). Tighten the M3.5 terminal screws to a torque of 0.6 to 1.0N·m. Failure to tighten terminal screws may cause overheating and increase risk of fire.

General Instructions

Panel Mounting

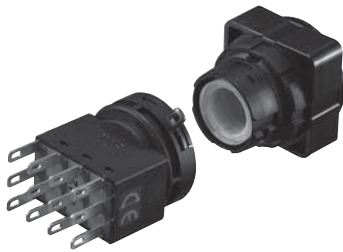
Remove the contact block from the operator. Insert the operator into the panel cut out from the front, then install the contact block.

Removing the Contact Block

- Turn the locking lever on the contact block in the direction opposite to the arrow on the housing. The contact can then be removed.

Installing the Contact Block

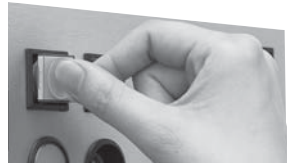
- Insert the contact block, with the TOP markings on the contact block and the operator placed in the same direction. Then lock the units, turning the locking lever in the direction of the arrow.



Replacement of the Lens & Marking Plate

Removal

- To remove the lens unit, press the suction cup of the optional lens removal tool (MT-S01) onto the lens and pull the lens unit out.



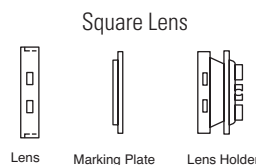
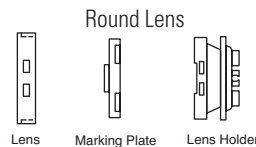
- Remove the marking plate by pushing the lens from the rear to disengage the latches between the lens and the lens holder, using a screwdriver as shown below.



The translucent filter in the lens holder cannot be removed because the filter is sealed to make the unit waterproof and oiltight.

Installation

- For round lenses, place the marking plate on the lens holder with the anti-rotation projection engaged and press the lens into the lens holder to engage the latches. For square lenses, insert the marking plate into the lens, and press the lens into the holder to engage the latches.
- Make sure of the correct orientation of the marking plate.



Marking Plate & Film

For LW series illuminated pushbuttons and pilot lights, legends and symbols can be engraved on marking plates, or printed film can be inserted under the lens for labelling purposes.

Marking Plate and Marking Film Size

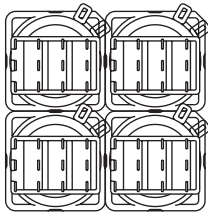
Lens	Round Lens	Square Lens
Built-in Marking Plate		
Applicable Marking Film		
	<ul style="list-style-type: none"> • Engraving must be made on the engraving area within 0.5mm deep. • The marking plate is made of acrylic resin. 	
	<ul style="list-style-type: none"> • Two 0.1mm-thick films or one 0.2mm-thick film can be installed in the lens. • Marking film must be prepared separately. • Recommended marking film: polyester 	

Notes on Mounting

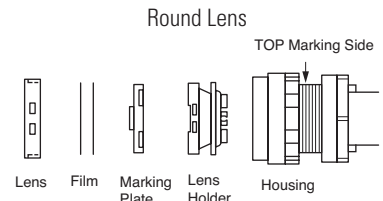
- Use the optional locking ring wrench (LW9Z-T1) to mount the operator into the panel. Tightening torque should not exceed 1.2N·m. Do not use pliers. Excessive tightening will damage the locking ring.

Collective Mounting

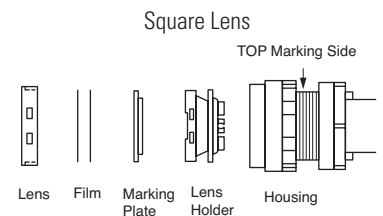
- As the locking lever can be turned easily from the rear of the units using a screwdriver, the contact blocks can be removed even when mounted collectively.



Insertion Order of Marking Plate and Film



Note: Film must be prepared separately.



Film must be prepared separately. Make sure of correct orientation of the marking plate.

Replacement of Lamps

Lamps can be replaced using the lamp holder tool (OR-55) from the front of the panel, or by removing the contact block from the operator.

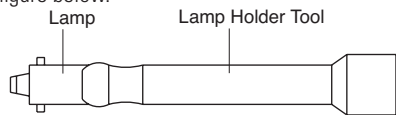
Removing the Lamp

- To remove, slip the lamp holder tool (OR-55) onto the lamp head. Then push slightly and turn the lamp holder tool counterclockwise.

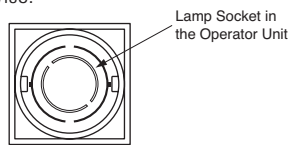


Installing the Lamp

- To install, insert the lamp head into the lamp holder tool and hold the lamp as shown in the figure below.



- Insert the pins on the lamp base into the grooves in the lamp socket. Insert the lamp and turn it clockwise.



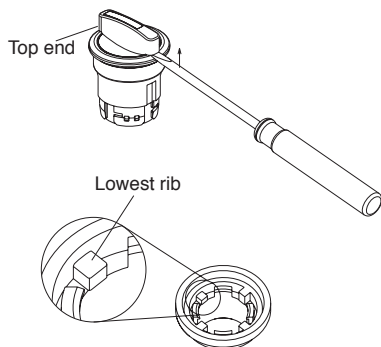
Removing the Illuminated Selector Switch Knob

Removing the Knob

Insert a flat screwdriver and remove the knob from the operator.

Installing the Knob

Press the knob into the operator. Align the recess on top end of the knob with the lowest rib on of the operator.



Key Selector Switches

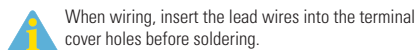
When turning the key, do not pull the key out, otherwise, it may damage the switch.

Wiring

- Solder the terminals within 20W/5 sec or 260°C/3 sec without exerting external force on the terminals. Do not touch the plastic housing with the soldering iron. While wiring, prevent tension from being applied to the terminals. Do not bend or raise the terminals, or exert excessive force on the terminals.
- Use non-corrosive liquid flux.
- Positive-lock connector and easylock connectors are applicable to tab terminals.
- Tighten the terminal screw of the screw terminal models to a torque of 0.6 to 1.0N·m.

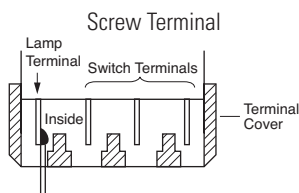
Terminal Cover (for Solder/Tab Terminal)

Insert the terminal cover onto the contact block with the TOP markings on the contact block and the terminal cover in the same direction.



Wiring Terminal Cover

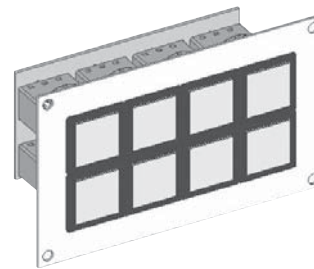
When installing a terminal cover onto the solder/tab terminal contact block, solder the inside of the lamp terminal (toward the switch terminals) and wire.



Install the terminal cover on the control unit before wiring.

- 1. After wiring, terminal covers cannot be installed.
- 2. When terminal covers are installed, ring terminals cannot be used. (For wiring, use fork terminals or lead wires directly.)

Single Board Mounting



Mounting the control units on a single PC board offers the following features.

- Reduced installation labor, easy wiring, space saving and standardization.
- Since the contact blocks on the PC board can easily be removed using a locking lever, control units are easy to maintain.
- Because the control units require no studs for fastening the control units to a PC board, special preparation of the panel is not needed.